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LEADING ARTICLES

THE OPSONIN THEORY AND THE PROBABLE FUTURE FOR BACTERIAL VACCINES.*

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THE advent of bringing together under the one roof the professions of medicine and pharmacy is a new step taken by the Kings County Pharmaceutical Society a step in the right direction, a step that augurs to bring about a better understanding amongst the so closely allied professions, and which will eventually prove beneficial to all either directly or indirectly concerned. Meetings of this nature tend to remove all the little misunderstandings which we find amongst all professions, and if fruitful tend to become the foundation of organized professions, none more trusted by and obligated to humanity at large. A united front by the combined professions will and must prove the death knell to all of those who under one pretext or the other prey upon the rightful calling of either profession. This being the first advent of a meeting of this kind, and having been honored by the Kings County Pharmaceutical Society in selecting me as the speaker on this occasion and upon a subject of such great import and interest not alone to the professions, but to mankind at large, I deem it my duty at the outset to thank the officers of the society for the honor thus conferred upon me. I will endeavor to confine my remarks strictly within the sphere embraced by the title of this evening's subject and not enter upon the citation of treatment or clinical data which should be, and rightfully so, the property of the medical profession only.

Mention has been made that the subject of this evening's paper might appear out of place on this occasion, that the medical profession might select to consider the discussion of Opsonins and Bacterial Vaccines as one belonging to the medical profession only, but the fact that the latter have to depend upon the supply of bacterial vaccines from the laboratories of certain pharmaceutical houses, nullifies this assumption. The intent of meetings of this kind is to spread knowledge of which Schiller says: "Knowledge to one is a goddess both heavenly and high to others only an excellent cow, yielding the butter he wants, and the good we may derive from knowledge depends upon each one's conceptive mind, and subsequent application of condensed thought. The observing eye, instructive tongue and receptive mind are the fundamentals pointing to that darksome road the thought of which makes one tremble, yet one must travel this road, for it leads to truth and right." The truth of the former is constantly recorded in the histories of medicine and pharmacy, and it appears necessary that I give a short synopsis of the history of scientific medicine as a preface leading up to this evening's subject.

It would be a grave mistake if we accepted a prevailing idea that the advent of scientific medicine belonged to the 17th century. As early as the 43d Olympiad, 610 B. C., we hear of the Greeks observing and studying the phenomena of spontaneous generation and of putrefaction, the fact of which is so well recorded in the pythagorean philosophy of Ovid. In 1675, Anthony von Leuwenhoeck after years of experimentation perfected the first compound microscope, the absolutely requisite tool of the scientific worker of today and the necessary want at that time that afforded ocular proof of Harvey's discovery of the circulation of the blood. It was as early

*Lecture delivered before Kings County Pharmaceutical Society, December 10th, 1907.

as 1762 that Plencig of Vienna became convinced that there was an undoubted connection between microscopic animals exhibited by the microscope and the origin of disease. This era then is in fact the beginning of the history of microscopy and bacteriology.

It was about this period when another advent occurred which deserves reciting, the advent of vaccination introduced by Edward Jenner, an English surgeon of the 18th century, notwithstanding the statement of von Humboldt, that vaccination had been known and practiced from an earlier period among the Mexicans. Jenner began his first observations in 1768 and for thirty years he carefully and patiently investigated the subject, both by observation and experiments. He began his vaccinations upon the human subject in 1796, published the result of his labor and investigations in 1798, and two years later, A. D. 1800, his teachings were introduced as practical in the United States, Germany and France. Many years after the beginning of his first observation he timidly and under the seal of confidence, confided to his bosom friend Gardner, his mighty hopes in vaccination for the great good of all mankind. Is it possible for us to conceive the amount of labor, patience and privation this benefactor to mankind suffered during all those years of study and observation, a benefactor of whom Martin wrote: "He was a truly great and philosophic man, worthy to be, as he was, the chosen pupil and life-long friend of John Hunter. He brought his labors to a successful issue by not becoming disheartened through the unfriendly attitude of his confreres, but with slow, careful almost painful deliberation and completeness his mind moved to its great goal—the triumphant acceptance of the vaccine therapy."

Next of importance came Pasteur's great work of the cultivation of micro-organisms in 1862, and subsequently the recognition by him of specific ferments. Along with his work came Klebs, the pioneer of germ theory in 1872. Up to this date specified branches of the department of medicine played the preeminently role in the history of medicine until 1877 Weigert introduced the anilin dyes and demonstrated their great value in the study of bacteriae and tissues. At this same time Sir Lister advanced his theory of antisepsis. Next we have in quick succesion the works of Eberth, who first observed the typhoid bacillus; Neisser discoverer of the gonococcus; in 1882 the discovery of the tubercle bacillus by Koch; in 1884 of the diphtheria bacillus by Loeffler, and finally Koch's discovery of tuberculin, the specific technical poison of the bacillus tuberculosis, together with Pasteur's works on the exhaustion theory as well as Chauveau's retention theory.

All these preceding discoveries led to the investigation of the relation between immunity and the phenomenon of phagocytosis. Roser, Sternberg and Koch reported certain observations regarding the phagocytes as early as 1881, but it remained for the most distinguished savant of the times, Metchnikoff, to report the theory of phagocytosis. Phagocytosis represents the swallowing or incorporating of foreign substances by certain cells known as phagocytes, which in turn are divided into fixed phagocytes comprising the fixed connective tissue cells, endothelium, and the free phagocytes. These must not be regarded synonymous with leucocytes, as some species of the latter are immobile and never attack or take up bacteria. Phagocytes possess ameboid movement, so as to be able to migrate, to apprehend, digest and assimilate bacteria or other foreign bodies. As far as known these cells possess no volition or nervous apparatus giving them tactile sense, still they approach substances fitted for their use and engulf them. This exhibition of attractive force is termed positive chemotaxis, and is exhibited at some stage of all mico-organismal diseases.

It would require a great deal of time to enumerate the many experiments of Metchnikoff's, all of them leading up to the discovery of opsonins, be it sufficient to mention here the results of Metchnikoff's studies regarding the action of bacteria and serums in the blood, his advocating the use of the term, "stimulins" in preference to antitoxins, claiming that the antitoxication of serums does not exist, that the serums do not act directly on toxins, but cause to bring into play certain forces of the organism, namely, the phagocytes, whose absolute integrity is necessary for the manifestation of the serum's influence. These latter observations really led up to the bacterial vaccine theory, advocated by and put to practical use by Sir A. E. Wright, M. D., and guide to which is known as the opsonic index.

The question now arises, what are opsonins, what is their action, and how are they obtained or increased? Much discussion has has arisen as to the nature and composition of opsonins. Some observers hold that they are identical with certain other antibodies; others claim that their structure is similar to certain constituents of normal or immune serum, that they are structures like the toxins, agglutinins, precipitins, and again that they are double structures like cytotoxins, hemolysins of hemolytic sera. Wright describes opsonins as certain antibacterial substances present in the circulat-

ing blood, but to which he gives the more appropriate term of bacteriotropic elements. Opsonins act upon bacteria and change them in such a way that they are more readily assimilated by the phagocytes, by killing the bacteria without dissolving them, they may kill and dissolve the bacteria, they may cause the agglutination of bacteria in the presence of salt and they may so alter the bacteria as to cause them to be readily ingested and digested by the phagocytes. This later phase directly represents the action of the opsonins, a name derived from the Greek: "Opsono, converting into palatable pabulum, preparing for food." Opsonins exist in normal serum and in larger quantities in the serum of successfully inoculated subjects.

Before preceding further it may be of interest to relate facts leading up to Wright's discovery, as related by him. At the time of Metchnikoff's publication of the theory of phagocytosis Wright was busily engaged in biological research, and it was but natural that he directed his work to discover the nature of the composition of the cell body of the phagocytes. It is impossible to describe the trials and tribulations he met in this great work, but this Philosophus Philosophorum readily perceived that any new-born theory could not be brought to a conceptive mind unless it was prefaced by arduous labor; he realized that before him lay that darksome road over which genius must travel in search of light and truth. Step by step he took up that part of the work left unfinished by Pasteur, Metchnikoff and others.

Amongst the very first newly discovered data he observed that bacteria from cultures would not be molested by washed leucocytes, but that the same bacteria previously mixed with human or animal blood would be eagerly devoured by the phagocytes. Washing the bacteria after bringing them in contact with blood revealed a further fact, that they were eagerly taken up by the washed leucocytes. The aforementioned experiments were the first steps towards his later discovery. He next directed his efforts to determine what substance of the blood should cause this special attractive property in the leucocytes. Deductions from his studies led him to believe that it was some kind of substance given off by the cells of the body, and this substance, unknown as to its complex organic composition, but possessing the property of fixing, engulfing, or whatever term might be appropriate in a manner so as to excite and increase the phagocytic properties of the leucocytes, Wright named opsonins. Whenever the body cells become very active in the preparation and elimination of this substance he noted that it collected about the bacteria, forming a sort of covering over them, without hurting their activity, at the same time noting that the heretofore inactive leucocytes in their immediate vicinity became phagocytic in movement and character. He next endeavored to study the probable amount of opsonins liberated by the body cells and lengthy tests proved to him it differed materially regarding quantity, time and surroundings. Experimentations proved to him that when the blood was rich in opsonins the leucocytes, or rather phagocytes exerted a highly increased phagocytic ravage. Up to this time Wright had proven and convinced himself of the presence of opsonins in the body, as also of its increase and decrease at different periods, and his future studies were directed to find out if possible how to increase at will the liberation of opsonins by the cells. These studies led him to observe that the increase took place whenever the amount of bacteria increased and vice versa; that is to say, by injecting bacteria into the circulation of the test animals he noted the increase of phagocytic action, ascribing this to the augmented liberation of opsonins by the cells. The purpose of these tests was not to increase the amount of bacteria in the body, which was naturally accomplished by injecting live germs, but rather to destroy all bacteria, by increasing the opsonic power of the blood. His next step was to inject gradual increasing doses of previously killed bacteria, and to his delight he observed that the cells liberated the opsonins very freely, and he noted the following factors step by step. Immediately after the injection of dead bacteria the liberation of opsonins by the cells was noted, the opsonins covered the dead germs primarily, and thus excited to the the extremest activity they began to encircle and incorporate within their body all live germs present. With the aid of the hot stage and one-twelfth oil immersion lens one is enabled to observe the entire process, which finally ends with the disintegration of the bacteria so engulfed by the phagocytes, and if continued long enough, one may observe the dying off of phagocytes who through overwork or some other cause have become incapacitated.

The quantitative amount of opsonins having been investigated the next question presented itself as to the qualitative composition, whether he had to do with a general opsonin, or whether there existed varieties of opsonins, and these investigations positively proved that there were special opsonins for each species of bacteria. With these facts before him Wright proceeded to apply the heretofore acquired theories to practical use,

and this led finally to the discovery and manufacture of bacterial vaccines

The latter represent killed bacteria suspended in normal salt solutions and sterilized at 60 deg. C. These solutions are standardized by calculating the total number of bacteria in one cc. and are dispensed in Wright capsules in denominations ranging from 15,000,000 to 500,000,000 bacteria to the tube or capsule. If prepared from stock cultures in the laboratory these vaccines are termed stock vaccines, this to differentiate them from autogenous vaccines, which are freshly prepared from fresh cultures obtained from a specified case. Wright prepares his stock vaccines putting them up in 50 cc. bottles, each cc. of which contains 600,000,000 standardized dead bacilli. It has been proven that stock vaccines lose in efficacy in two months, and it is advisable to prepare them fresh every four weeks. They should be kept in stock dark and cool places. The manufacture of cultures from specific cases required to prepare autogenous vaccines requires from two to three days, cultures so obtained failed to opsonize. Tests with the amount of opsonins by both the stock and fresh cultures showed differentiations up to 40 and 50%. The preparation of stock vaccines has already been taken up by several pharmaceutical manufacturers, who in addition to their pharmaceutical plant have well equipped laboratories for research.

During my late travels in Europe I learned that the preparation of stock vaccines was conducted in a few instances only in the laboratories connected with leading pharmacies. Of this more later.

Much could be said relating to this very interesting subject of bacterial vaccines and opsonins, but time nor place will permit my enthusiasm in the subject created by the most marvelous observations in clinics to run away with itself and to encroach upon those phases of opsonin theory which properly belong to a paper or discussion before a medical society,. It remains for me to explain how the increase or decrease of opsonins is determined by means of the opsonic index. The opsonic index represents the difference in opsonic power of the blood serum of an infected person as compared with that of a healthy subject. When reading opsonic indices the reading of the opsonic index of a healthy being is given as 1.0.

The method employed to accurately determine the opsonic power of the blood of a person is as follows: Equal parts of an emulsion of red cells and leucocytes and an emulsion of bacteria and serum are mixed and held at a temperature of 37 deg. C. for about fifteen minutes, after which a spread slide is prepared from this mixture, and the smear is studied under one-twelfth oil immersion lens. We will note that the leucocytes differ in form and size and in their content of bacteria. These variations may be due to phagocytic activity, but may be caused by interference from the red cells, which are present in large numbers. It becomes necessary to count from 50 to 100 or more leucocytes and to count the number of bacteria ingested by them. If more than one count is made than succeeding counts should be made by the same person to avoid differences in counts which would be likely to occur, owing to variation in methods employed. To make this clear I cite the following example. In a specimen smear in which 50 to 100 leucocytes are studied, and in which 500 streptococci have been treated with healthy serum, we find that 50 lecocytes ingested 250 streptococci, 100 ingested 500, etc. Our next step is to take the serum from a person afflicted with furnuculosis, or any other disease in which the streptococcus proves the infective germ, and upon study we find that 50 leucocytes ingest 150, and 100 ingest 300 streptococci, then the opsonic index of such person is: 500: 300::1:0.6=0.6.

Having thus determined the opsonic index of a subject the inoculator proceeds to inoculate the bacterial vaccine, after which other opsonic indices are taken. We may now note that the bacteriotropic pressure of the blood is preceded by a depression. The sinking away of the bacteriotropic pressure is termed the negative phase and the rise of pressure the positive phase of the reaction of immunity. The increase in bactericidal power of the blood by an increased phagocytic response in 24 hours.

The doses and frequency of inoculation are matters for consideration of the physician only. Bacterial vaccines are contraindicated in acute diffused infections characterized by toxemia, but excellent results have been reported in that type of infection where a single species of germ had penetrated into the interior of the body and had established itself in one or more foci without causing any considerable destruction of tissue or constitutional disturbance.

Wright believes that antiseptics should never be used for the purpose of holding in check and extinguishing localized bacterial infections. He reasons that antiseptics can take effect only upon those bacteria with which they come in contact, and on account of their local distribution it is unreasonable to expect a complete sterilization from any application of antiseptics.

Antiseptics will not add their antibacterial power to the antibacterial power of the

living organism, but will directly antagonize the protective forces at the command of the latter. It will paralyze the phagocytes and will abolish the antibacterial power of the blood fluids. The application will also injure the histological elements, especially the capillaries of the tissue to which it is applied. It will thus lead to an out pouring of lymph from the disinfected surface. This outpouring will not only wash away the antiseptic, but it will, where a skin surface is in question, convert the natural dry keratin armor of the normal epidermis into a sapping, lymph sodden blanket, in which bacteria will easily establish themselves.

Time alone will tell whether bacterial vaccine therapy is to become a permanent factor in medicine and if so bacterial vaccine supply stations will become of great demand.

SOME of our learned friends now think that appendicitis is caused by the steel which enters the flour in the process of manufacturing. Another thinks it is caused from munching our mustaches. There is absolutely no limit to what some men think they think.

HUBER, a European statistician, estimates that there are over 4,500 cases of lupus vulgaris in Hungary the disease occurring with greatest frequency in individuals between eleven and twenty years of age. About 58 per cent of the affected are females.

THE Austrian government has been petitioned by the Dentists' Association of Vienna, to restrain the Order of Brothers of Charity from tendering free dental treatment. The organization extracts more than 60,000 teeth annually, a needless sacrifice which should influence the authorities in favor of the dental practitioners.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.—At the annual meeting, held on Monday evening, January 20th, the following officers were elected: President, Dr. Robert T. Morris; corresponding secretary, Dr. Frank C. Raynor; treasurer, Dr. A. Ernest Gallant; and chairman for the Borough of Brooklyn, Dr. J. Scott Wood.

APPROPRIATIONS FOR PREVENTIVE MEDICINE IN GERMANY.—The last German budget contains an appropriation of $500,000 for repression of typhoid fever, $14,000 for a bacteriologic station near Berlin, and $1,250 for compilation of the vital statistics in tabulated form. A million dollars were also appropriated for improving the housing of the poor.

DRUG MEDICATION REGNANT IN THERAPEUTICS, THE KEY TO EXACT MEDICAL SCIENCE.

JOSEPH CLEMENTS, M. D.

WICHITA, KAS.

Member of the American Association for the Advancement of Science, etc.

MEDICINE is late in coming into its kingdom as an exact science. Other branches have taken more rapid strides, or at least have more nearly approached the goal of exactitude, medicine being somewhat tardy in the race. Reason, not to say excuse, exists for this lateness in attainment of majority in the nature of the things involved. The medical problem is of the highest complexity, and even complication. Its phenomenon is biological. In its objective it has a physical basis, which involves both physics and chemistry. And the genius giving mathematics its scientific competence inspires and finds play in the fundamental medical equipment.

Medical science waited, and still waits on these, for no correct conception of the organic phenomena, with skill to manipulate the functions and processes, were possible short of the acumen which the genius of the aforenamed predecessors in science made attainable. Nothing bigger or truer, perhaps, has been said of man than that he is a microcosm, and to comprehend this one must know the cosmos.

It may be at once admitted, however, that departure from and default in recognition of the principle in the title of this discussion, have permitted the exploitation of hypotheses in physico-therapeutics, and mechanico-therapeutical schemes and instrumentalities, with organo and serum therapeutics, and what not? Theories materialized in the exhibit of mechanical devices in annual display, as so-called "instruments of precision" in modern therapeutics, would certainly put to blush any eighteenth century "vitalistic" notions then or since entertained. The facts in the primal organic processes, self-interpreted, evidence the regnancy of chemical factors and chemisms as the immediate or the ultimate agencies in induced remedial therapeusis. This will again, but in more full appreciation, be the platform on which will stand the chair of medical therapeutics, and with this will forever pass the "chaos in medicine" with which it has been twitted.

Not by any means, that the physical and mechanical—recognizing the latter as possibly more gross—have no place in the medical interference with the life processes. The magisterial factor in all medical therapeutics is chemical, as the phenomena to be mani-

pulated and modified are chemical and, saving as the potential of the primal and directive protoplasmic processes is in evidence and demands recognition, these are simply and purely chemical. That the facts warrant this position, and that medical therapeutics on this basis are solely sufficient in the premises is the burden of this thesis.

TO THE TASK IN EVIDENCE.

Medical therapeutics induce therapeusis, emphasizing that the therapeutics are medical, the therapeusis is the response, which is organic or vital. All therapeutical processes in the case in hand are initiated, and even originate in and by the therapeutically designed medical interference, in institution of secondary processes. These secondary phenomena are corrective in character to the pathologic processes unfortunately prevailing and are efficient only through the responsive modification of the primal or protoplasmic activities. All life phenomena are responsive to external factor and environments, and are effected in and by the protoplasmic activities of the cells. These, therefore, are sovereign and sole in active potentiality in all organic phenomena, full grasp of which fact and principle is fundamental in medical science. All physiologic functions and processes are potentially achieved by the primal function, being put on exhibition in the secondary processes, which are the organic or associational, the effective agency in every phase of them being alike the ubiquitous cell protoplasm. The living matter of the cells is the sole agency in the potential and directed achievement.

It follows, therefore, that the organism produces its own diseases; pathological phenomena are organically initiated. Unless the ratiocination be severely scientific we may find ourselves "seeking among the mazes for the point at which pathology becomes a part of physiology." But without pedantry or verbal quibbling, the initiation of pathologic processes is not necessarily the origination of vital phenomena. Vital or organic phenomena are exquisitely metaphysical in character, and their description demands the use of the most exact terms commandable. These functions and processes are self or protoplasmically originated, and change in the character of their operation while an initiation in variety is misconceived if designated an origination of a new phenomenon. Such care in the use of terminology will reject the conception of "germs" in any relation to disease of phenomena, and particularly "germs" in *origination* of disease. Processes initiatory of pathologic phenomena, exactly, which is scientifically speaking, originate nothing; simply that which is already in active operation is modified, changed in particular forms of action. This was taught two centuries ago, and also that the remedial agencies and processes in therapeusis were solely of the organism itself. Consequently, there are no "germs" of or even in disease, or "remedies" therefore external to the organism. "Virulence" as a property or quality of bacteria, or "therapeutic potency" in sera, or other factor medicinally employed, is impossible to scientific thinking and interpretation of the facts. The dynamics, and the active factors in the pathologic, equally with those in therapeusis, already inhere and are in operation in the organic phenomenon and processes.

There can be no genesis, no origination genetically, of either pathological or processes in therapeusis. So-called "germs of disease," or virus of any kind, is not pathogenic in any scientific sense. Bacteria are incompetent to disease phenomena in their own organisms, and that they may be genetic to this in the superior organism will not command a moment's consecutive thinking of the facts involved, even were its genetic origination in the superior organism possible.

To scientific thinking, in view of the fundamental facts in the primalism of the organic phenomena, patho-excitant and pathogenic are distinct as a designation of property in respect to potential *results*, and full appreciation of this in interpretation of the processes involved may mark an epoch in medical ebb and flow.

In organic phenomena *excitant* factors have identity distinct from the *acting* factors in the processes in consideration, and may so remain, taking no other part in the drama accruing upon the excitation. If any factor or action causal of disease might become an integral factor in the induced pathologic processes in their primalism it would seem to be that of the bacteria. They are organic as entities, and their activities are protoplasmic in origin and character, and so cognate to those of the superior organism. But it is now fairly demonstrable that not the physiologic activities of micro-organisms, but their *secretions* with their *dead bodies* are the factors in the infection of which they are the real or the supposed agents.

Now, it cannot possibly be that there is any commingling of the bacterial with the superior processes as "genetic," or even initiatory of disease. No evidence of this is to be found intracellularly, no traces of the supposed "organic poisons," or the "juices," or the tissue substances of their dead carcasses found, or effects of their pres-

ence and action left there, themselves having been removed.

Nevertheless, the bacterial organic products — say their excrements—with their dead bodies in decomposition, may become factors causal in initiation of pathologic processes, and may even be adjuvant and ancillary to the secondary processes of the superior organism. And that the special disease with which the disease organisms have previously been in association should be that of which they are the so-called "germs," and in which they may be the veritable precursors, is a marvelous fact, but which finds interpretation in the marvelous complexity of the properties and powers of the organism the subject of the disease phenomena. This will be seen in fuller illustration later in this study.

It must be maintained that nothing may be conceived of as a "genesis,' or as possessing or exerting genetic power, external to the living organism. Bacterial property and power are genetic to micro-organic physiologic phenomena, which are precisely the same in kind, but lower, simpler, less complex, and not competent to those of the superior organisms. Their own nutrition and multiplication exhaust their utmost entail of competence, and hence, in all else with which they are connected, in "nitrification," and all other phenomena, their role is incidental—not to say accidental—and accommodational, which facts must brush away forever the figment of bacterial pathogenesis in their relation to disease. It is a huge mistake in scientific conception, and seriously misleading in the practicable application of the facts.
esis.

Whatever part the casual factor in induced phenomena may play, its stage of action is extracellular, having no *direct* contact with the living matter, or action with the protoplasmic activities, a correct and competent conception and interpretation of the organic phenomenon will assuredly assign that place and role alone to the nutrient proteid in the primal function.

Pathologic processes are often super-normal, calorification and other activities are hastened, and "work" is done too fast—example of which we have in local fevers, etc. More generally, perhaps, the organic forces and activities are lessened, curtailed in the arrest for the time being. However, no new factors are, introduced, necessarily, or processes different in kind are instituted. It is simply the old drama in variation, or like a "stock company" rendering a different play. The factors and potencies effective in putting on exhibition every phase of organic phenomena are already in active operation, vary ing these as per the environment or special inducement brought to bear. Thus the conclusion is imperative that there can be no genesis of either pathological or remedial processes in the severely scientific sense, and less exactness in conception and interpretation is damning to medicine as a science. The change from the normal to the pathological is effected by variation in modification of the already inherent activities, without, necessarily, added or new factors, while a genesis is a beginning in the sense of origination of a new or another phenomenon, as the "germ" suggestion implies. "Disease" is not something new needing a "germ," never was, since it is simply a variation of what was already in operation. The "germ" notion, together with "pathogeny" in bacteria should be relegated into desuetude with any pretense to science in medicine.

The original factors and functions are modifiable by means of proximity and action of other factors casually or purposley introduced. These factors may be external or "foreign" in character and action and, as already said, being non-cognate to the organic. Drugs enter, effect their chemisms and are excreted with other debris. The chemisms of these heterogeneous matters in vivo are empirically known to be excitant or causal to modified or changed conditions and processes within and by the organism. Scientific therapeutics estimates the quality and the energy of this response, and guages these beforehand. Medical science has advanced so far as to know that the organic response varies as the nature of the chemisms as stimuli varies, the modification of the vital processes being temporarily or more permanently effected; and the degree of this modification as to permanency is a matter of the gravest importance, yet too often overlooked.* A bullet enters the body and unlike a drug compound, nothing may be predicted of its effects. It may become encysted, the chemisms of its surface action being walled off from the vital stage of action, no permanent effects may ensue. It depends upon location and environment to determine its course of action, so to speak. The same principle holds to a degree in drug medication. Some drugs are said to be "inert." No chemical compounds are competent to reactions at absolute zero. "Inert" chemical compounds in the human stomach would be like the encysted bullet in the muscle, an obstacle, and disturbing to that extent. But it is not likely that any protoplasmic response would be elicited, which would promptly be the case

*The writer verily believes that our modern serum therapy, with the induced "immune conditions," is wrongly based, and will be found to be prolific of "soil" in new varieties of disease, which is appalling to contemplate.

on the initiation of chemisms by the medicine ingested, the splendid work of Loeb in California, and Mathews in Chicago Universities well attest this fact.

And as location and environmental factors are determinative of the effects of the entrance and continued presence of the bullet, so the condition and functional activity of the organism will determine the energy and character of the organic response to the chemism of the therapeutical or other drug.

Here, then, we have the principle of "soil" as conditioning disease, a matter of some complexity, requiring a thesis of itself.

The response to the chemisms of the causal factor originates in the primal function, the protoplasmic activities, and are put on exhibition in the secondary functions and processes. Each man must make his own confession of faith as to his conception of the entity or content he designates "soil." Certainly, however, this is protoplasmic in entity, the potency to this issues or is administered from and by the protoplasmic activities of the cells. That the defect in some nervous pathologies is largely in the neuroglia scarcely affects this principle of the sovereignty of the protoplasmic activities in the understanding of "soil," for a weak or imperfect scaffolding bespeaks an inefficient builder.

Hence is installed "soil" as a vital factor to be reckoned with both pathologically and also therapeutically.

Now, in attempted induction of modification of vital processes in departure from or return to the normal the chemism as the causal factor is almost invariably to be depended upon, and the response as invariably if the "soil" and other conditions are correctly estimated. Conditions being the same response to the modifying factor is invariable—a prime principle in exact therapeutics. Hence the question: May a normally acting organism be infected? and the answer: Certainly, but not directly. The "soil" must be created, as surely and as necessarily as cosmic condition of liquefaction, and further consolidation, with temperature modification, etc., as conditional to the appearance of life on the earth. There is needs be of modification of conditions of the original vital phenomena, and of their active processes in the establishment of "soil," and the way becomes clear for the institution of disease. Our industrial "civilization," a modern entailment, makes easy the belief in the prevalence of this "soil" throughout christendom, and in the aborigines and—half-civilized evidence of departure from the normal and competence to disease seems well-nigh universal, and even monkeys respond to syphilitic infection—with the qualifying addenda, for what it may be worth, monkeys in domestication, an apology to the brute.

The character of the external factor, and its role as causal in disease, and in induced therapeusis become facile of determination on the basis of these fundamenal facts, and an "external" patho-excitant must be supposed to be always a chemical one, what else is conceivable as competent? A mere fragment of a metal embedded in the tissues does not become encysted, and its untrammeled chemisms give rise to response in local fever, suppuration, etc., utterly unlike an encysted bullet. What other than the chemical reactions intiated can explain the phenomena? The nutrient proteid factor in primal nutrition passes into the substance of the cell protoplasm, and becomes a coactive factor in the primal or protoplasmic activities. No known facts evidence a duplication of this phenomenon, and it is inconceivable of a "foreign" body—fragment of iron—or of a drug, or chemical compound of any character. In so far as the primal or protoplasmic activities are concerned, all pathological or therapeutical factors are "external," extracellular in character and action—"action at a distance"—and simply causal as stimuli.

The distinction, therefore, between the primal and the secondary in organic phenomena is vital and fundamental to the conception and the interpretation of the problems involved. The factors and agencies in these secondary processes are structural, and consequently organic, not to be said, however, of the primal. Pure, untouched bioplasm has no evidencible structure of the kind or character constituting the secondary factors, which achieve the organic phenomena. These are the products of primal or life processes, are organical in structure and association, and so are competent to, and in veritable functional activity. This is why a "living" membrane is competent to osmosis, while a synthetically formed one utterly fails in effecting the function. The so-termed secondary phenomena while distinct in conception from the primal, are yet in necessary vital association, being dynamically effective by the efficiency of the protoplasmic activities.

Quite in harmony with all of this is the now verified ascertainment of the fact that the bacterial secretions, with their dead bodies, are the identical agencies in the induced pathologic processes, and the acumen of the observation is a laurel to exact medicine. What are these as factors in the pathological phenomena, but, though organic products, yet now chemical compounds in reaction to decomposition, and as such causal,

and even adjuvant to the secondary of disease processes? The secondary in organic phenomena—and in a sense the only phenonmenal—is prevailingly chemical. Protoplasmically dynamic and dominated—for everything organic ceases when protoplasmic activity ends—these are simply chemical activities, and cognately, and as matter of course, their stimuli or modifying factors are themselves chemical, and initiatory of chemisms. Nothing less, and nothing else may be competent than chemisms, in action at a distance, stimulant to the primal property of irrability, a life property, solely inhering to the living matter of the cells, which is responsive in the secondary and chemical phenomena which are the physiological. Here, and in these facts the physiologic, the organic problem and phenomenon, are in solution. If not, why not?

As shown in other articles, the quality of the factor causal in disease, and particularly in induced therapeusis, is to be determined by the character of the chemisms of the factors employed, their reactions initiated under the changed environment in vivo. Adjuvant in this are the further chemisms in which these become effective in consequence of the more complex in vivo factors, which are now coactive. This is that which is determinative of the mistermed 'pathogenics' of bacteria, and "therapeutic potency" of sera, etc. If the chemisms patholcgically or therapeutically designed and initiated are incompetent as the effective stimuli, the causal chemism must needs be raised to a more complex reaction, in interest of a more energetic chemism or stimulus. In the case of bacteria, the selected organisms are put through another cycle of life phenomena, supposedly in acquisition of greater "virulence," and probably with really added complexity of entital content in chemical competence, as suggested by the facts in mosquito hostism, in yellow fever infection, by their means, twelve days needing to transpire from the bite of the patient by the insect, before the imparted virus may be effective in infection.

Dito as to the serum factor, in so far as the high competence of the chemical reactions are concerned, even to the combination of "jackass and goat sera!!"

Briefly, then: On the basis of the severely scientific method there can be no "genesis" or "germ" of disease, it is not an entity, it is a process, and merely a modification of those already in activity. Life phenomena are the responses of a definite energy, with a physical basis, to external or environmental conditions and factors. Any and every manipulable external factor may assume the role of stimulant to the protoplasmic activities, the nutrient proteid being the exceptional factor, alone competent to coactivity in the primal organic processes. And in the last analysis every factor causal in induced modification of organic processes is chemical, both in character and in energy. From the rubbing of the bones, to the local approximation of X-rays, aye, and even the autosuggestion itself, with the host of other mechanical devices between, one and all materialize in initiation of chemisms as the factor in their efficiency in elicitation of the chemisms which are adjuvant to the vital and primal—the protoplasmic activities.

The organic phenomenon is biochemical, the processes to be manipulated as remedial of disease are biochemical. The causal factors in disease are practically chemical in agency, and all therapeutics in interest of induced therapeusis are also practically chemical. The pragmatism in medical science is scientific organic chemistry.

Exact response in the sovereign and solely remedial organic processes, is attainable in what is remediable, in and by means of drug medication, in the use of exact pharmaceutical compounds. Thousands of physicians are daily attaining these at will. Named "diseases," which under other basis of treatment "run their course," on the institution of the appropriate chemism are aborted in a few hours, and not only without violence to the phenomena in its normalism, but in maintenance of its integrity. And the marvel is the simplicity of it; exact knowledge, however, is the requisition. A molecule of two chemical elements only, is efficient to initiation of chemisms which may wreck or rejuvenate a living organism—as colloidal phenomena well illustrates. And from a molecular union of a few atoms, to molecular compounds of many hundreds, and on to the pharmaceutical mixtures approaching the damnable in their polypharmacy, the choice and competence to initiation of such varient chemisms as to command any needed remedial response in therapeusis possible to the organism, is afforded, to medical efficiency. The molarly destructive radioaction, which may find role in suitable cases, in no wise is comparable with the delicacy of technique of the indirect atomic and corpuscular originated chemisms which medical therapeutics employ. Surgery is the mechanics of medi cine, the latter its bases. No surgeon should assume the position with less than a decade of medical practice in fitness thereto. Thus in exact medical science, medical interference begins where the mechanical and the molar end—excepting the technically surgical, the highest and the last. The merely mechanical—the physical and spectacular—will go

into desuetude, and brains, plus a chemical factotum, will make the medical man master of the situation.

1537 S. Main street.

A USEFUL IODO-PROTEID IN THE TREATMENT OF TERTIARY SYPHILIS.

J. R. THRASHER, M. D.

INDIANAPOLIS, IND.

Former Superintendent State College Hospital.

THE use of iodine in the treatment of syphilis has been almost wholly confined to the salts of poassium and sodium. Since iodine undoubtedly possesses some value in every stage of syphilis, it has been used indiscriminately by many practitioners, although its value is much greater in the latter secondary and tertiary stages than in the earlier manifestations of the disease. The incontestable value of iodine compounds, when properly adjusted to the age and other conditions of the disease, has been amply demonstrated by hundreds of cases reported in the literature. Nevertheless, there are cases in the practice of almost every physician who, by reason of what may be called idiocyncrasy, are unable to take the inorganic salts of iodine for any length of time, or in large enough doses to accomplish much good without producing grave disorders of the alimentary tract as well as annoying skin lesions

In recognition of these facts, many modifications of iodine have been brought out by chemists, one of which I have found of great service. This is an iodo-proteid compound containing 21½% iodine and is marketed under the trade name of "Iodalbin". This preparation is presented as a reddish yellow-powder and is practically tasteless; being insoluble in acids but in alkaline solutions, it passes through the stomach unchanged and is broken down and assimilated from the intestinal tract, without producing the exaggerated effect which follows the rapid absorption of inorganic iodids, such as potassium and sodium.

The beneficial effects of this iodo-proteid compound are shown by the following case:

From the result of a fall about three and one-half years ago, G. W., age 26, male, suffered an injury of left arm and elbow, followed by swelling and soreness, which gradually improved for some time, but later the usefulness of the arm became much impaired. During the next three years patient made no improvement, but more acute conditions developed all the time until the case, when it came to my notice, was in a desperate condition. In the meantime, he was treated by several eminent physicians, all of whom made a diagnosis of tuberculosis, as patient positively denied a syphilitic history. As the symptoms became more evident, I insisted that the trouble was of specific origin and, after having made a skiagram of the arm, I became thoroughly convinced that such was the condition. After carefully going over the symptoms, together with a display of the skiagram, the patient finally acknowledged to a specific lesion about eight years ago, followed by a course of indefinite treatment and history of secondary eruption associated with sore throat, mucus patches, alopecia, headache and general aching at night.

Patient's symptoms on examination (subjective).—At times patient complained of dizziness, nervousness and headache, which was worse in the night and early morning; some catarrh of the nose and throat, associated with a bronchial cough; pain in the elbow being almost unbearable at night.

(Objective).—Motion of elbow limited, spindleshaped swelling rather soft on palpation; synovial fluid much increased; pain on palpation in lower end of humerus, involving articular surface; no redness nor heat perceptible on palpation.

A diagnosis of tertiary syphilis was therefore made and the following treatment began April 15, 1907: Patient began with five grains iodalbin three times a day, continued for three days, after which the dose was increased five grains each day until seven capsules were taken three times a day. The treatment was then discontinued from April 29th to May 9th, when it was begun with five grains three times a day for one week, then gradually increased to ten grains three times a day, which was continued until June 1st, when treatment was again discontinued until July 1st, when five grains was taken three times a day for a period of one week. Since then the patient has received no treatment whatever and, from all appearances, is entirely relieved of his condition. From April 25th to May 5th, the patient showed a gain of five and onehalf pounds; since then no record is had of the gain in weight. The most interesting feature of this case is the rapidity with which patient improved, which was very marked in five days, and in ten days pain had entirely disappeared. Swelling and soreness at once began to gradually disappear, as did also the dizziness and pain in head. As far as I can learn, there has been no return of the conditions from which the patient suffered constantly for a period of more than three years. At no time in the course of treatment did the patient show

any unpleasant symptoms from the iodine even in these doses.

The advantages of such an organic preparation of iodine as iodalbin over the alkaline salts seem to be due to the fact that it is tasteless, insoluble in the stomach and being absorbed from the intestines, produces the typical alterative action of the inorganic iodids.

ORGANIZATION OF THE COLE COUNTY BRANCH OF THE MISSOURI STATE ASSOCIATION FOR THE CONTROL AND PREVENTION OF TUBERCULOSIS.

A meeting was called upon request of the citizens of Jefferson City, and assembled in the Library Hall at 4 p.m., January 7, 1908.

Dr. G. Ettmueller read the call for the meeting, and as acting chairman introduced Dr. George Homan, president of the State Association who spoke as follows:

Ladies and Gentlemen, Citizens of Jefferson City and Cole County:

The movement of which this meeting is a local expression is becoming worldwide in extent and its character and aims is one of the most encouraging signs of an advancing civilization.

Among the designations fittingly applicable to the last century is that of the Century of Tuberculosis, a cycle of time when the ravages of that disease probably reached a climax—a period when, save for isolated efforts of members of the medical profession, resolute resistance to its spread was not known, when either passive endurance of the scourge or an oriental resignation to an affliction deemed unavoidable, marked the attitude of governments and of public sentiment as well.

But all this is changing and a determined fight against the disease is now being waged, or preparations to that end are being made, in nearly every place where civilization and its influences are known. And to what purpose? With the effect that already within the few years now passed of the twentieth century a decrease in losses from this cause can be proved in places where the sanitary opposition has been most intelligent, resolute and sustained.

But the mortality is still appalling, and the disabilities attending the course of this affliction most deplorable. No elaborate statistics in proof of this are needed. Any one who glances through the columns of daily papers issued in cities where official records of this kind are published can easily satisfy himself on this point; for, from such official returns as are embraced in the list of burial permits, he will see that steadily, week by week, and month by month, throughout the year, the deaths from tuberculosis in all its forms average about one in seven of the total number. And, as medical observation has shown, there are for every one thus taken away five others following in his steps—many of whom through ignorance or inattention are sowing the seeds of the disease broadcast among their fellows.

And how has the before-mentioned visible change for the better been brought about? Not by medicines or nostrums, nor by any greatly improved method of treating individual cases, but by instruction addressed to the great body of the people in their own communities, telling the simple story of the disease and its manner of spread, teaching the need of precaution and the means of prevention. It will not do to say such instruction is not needed in agricultural communities or in population centers that have not yet attained to large municipal proportions, for consumption can and does move just as fast and as far as the traveler can journey, leaving infection often in unthought of places, and claiming unsuspecting victims who may be vastly more harmful to those around them than are the avowed cases that walk the streets of cities, and throng dispensaries and hospitals for treatment.

This meeting, therefore, is a recognition and confirmation of the views thus expressed, and it is most appropriate and necessary that such a light should be set burning in the Capital City of a great State, a city set on a hill and that cannot be hid, where its influence and illumination can be brought to bear directly on those who come here to shape the destinies of its people through legislation and administrative direction and control.

From the nature of things, immediate, conspicuous or showy results in this work cannot be looked for, but, as in the words of the Good Book, "little by little they drove out the Canaanites," so little by little with the multiplication of such acts of organization as this throughout the State, and through diligent faithful endeavor, will the tide of tuberculosis be stayed, pending its reduction and disappearance when public opinion shall be ripe enough to demand outlays of funds adequate to the performance of such a task. From this point of view it would be fortunate, indeed, if this major plague slew its victims within three days or three weeks, as does the minor scourge of bubonic plague, instead of three years, for then the horrors of the disease would be so accentuated that even the most selfish and sordid business in-

terests would demand of organized civil government the amplest means whereby such losses might be prevented.

It is considered by the officials of the Missouri State Association for the Relief and Prevention of Tuberculosis both a pleasure and a privilege to aid in effecting local organizations of this kind, and in their behalf cordial thanks are extended for the opportunity thus afforded, with the best of good wishes for prosperity and the accomplishment of much good work."

Dr. William Porter followed in an earnest appeal urging organization everywhere, and showed the benefits of work already done. With the help of Mr. R. J. Newton, secretary of the State Association, a temporary organization was formed, the wife of the Governor, Mrs. Joseph W. Folk, being chosen president, and Mrs. Dr. C. P. Hough, secretary. An executive committee was appointed and arrangements made for a permanent organization which would be announced later.

In Mexico, the cargador, carrier, transports bundles so weighty that ordinary men could not even lift them. It is not unusual for him to carry a load of 400 pounds on his head or shoulders.

The Society for the Destruction of Vermin is the name of a society recently organized in London. The object of this society is to bring about a general crusade against rats wherever found, on the ground that these animals are dangerous to the public health, and also injurious to many agricultural and commercial interests.

A law has been enacted in Denmark regarding syphilis. Under this law the police may punish as vagabonds females who can not show their ability to earn a living in a decent manner. Anyone suffering from syphilis is entitled to a free attendance at the hands of certain medical men appointed for this purpose and paid from public funds. The act has very materially reduced the incidence of the disease.

Florence Nightingale Honored.—Florence Nightingale, the English philanthropist, has been decorated with the Order of Merit by King Edward. She is the first woman to receive this distinction, which up to the present time has been bestowed only upon nineteen men, each one of marked eminence. The Order of Merit was founded by King Edward in 1902 for the recognition of especially distinguished services in all walks of life.

THE MEDICAL FORTNIGHTLY

Issued Tenth and Twenty-Fifth of Every Month.

Edited By
DR. THOS. A. HOPKINS

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EDITORIAL

The Housing of the Insane.

Some two years since the City of St. Louis voted a large issue of bonds to make possible a number of needed improvements, not the least important of which was the item of adequate buildings for the city's sick and insane. The spacious and beautiful buildings which are to arise as monuments to the movement seemed to have been lost sight of until within the past two weeks, when the press has been giving its attention to the over-crowded condition of the Insane Asylum and Poor House. We have known for years that the population of these institutions was far beyond what could be properly cared for, and we have admired the courage of those in charge who were doing such good work under such wretched conditions. Now we have seen a picture of the wonderful building which is to accommodate all of the insane and leave the infirmary to play its natural part in the municipal economy. The picture is beautiful, one would think that it belonged in Ohio, or Pennsylvania, or New York, or in another of those states where these things materialize with rapidity and solidity. The picture gives us plenty to look forward to and every day's delay in breaking ground and every day's delay in construction which could be avoided is to our discredit. St. Louis has shown herself progressive in so many ways that we believe that she will again do things right but we hate to contemplate that blot, the Poor House as now housed and conducted, in connection with talk about civic pride. Several hundred of our insane are in the poor house, because there is no room for them in the proper institution, and except for crowding beyond any limit there is no room for them in the poor house. We can ask nothing better of the lay press than that it keep up its agitation for the beginning of this work. No free bridge can mean so much

to St. Louis, no parkways are so imperatively needed; even the million dollar library which is to adorne Lucas place fades into insignificance in comparative importance. The work should be begun without delay, and it should be pushed to the limit of human ability.

Surgery, Without Consent.

THE question of the propriety of doing a surgical operation without the consent of the patient has occasioned comment at various times, and failure to have done the operation has not infrequently been as productive of censure as could have been "going ahead." Surgeons generally secure the consent of a patient, before undertaking an abdominal section, for the remedying of any condition that may be met; this should be the rule. A short time since we knew a surgeon who failed to do this and when operating for a movable kidney he discovered a gall bladder distended with stones and demanding attention; the abdomen was closed without doing this, as the patient's consent could not be gained, and the distress of the patient when she was informed about two weeks later that she must undergo another operation which might easily have been done in connection with the first, needs no comment. But lack of consent and definite opposition on the part of a patient are very different things. It appears that there is discussion in England of *compulsory* surgery. Speaking to this subjcet the editor of the New York Medical Journal mentions how little objection is raised to operations on animals and small children. "But, he says, "it is difficult to conceive that any person, apart from the dreamers who hope to regenerate the human race by castrating criminals, should think of decreeing and carrying out an operation on any sane adult individual of our species in defiance of his or her opposition. It seems, however, that such a notion has been broached in the United Kingdom. It is an outgrowth of the restiveness with which the new workmen's compensation law is submitted to.

"The question has come up in court, as we learn, from the British Medical Journal for January 11th. It does not appear that any British court has yet ordered a man to be operated on against his will, for such a course is not held to be warranted by the law; but it seems that the courts have the power, and in some instances have exercised it, of reducing to a nominal amount the compensation due under the law in cases in which pensioners refuse to submit to an operation fraught with but infinitesimal danger and holding out the prospect of substantial repair of a disability resulting from injuries incidental to their work.

"There can, we think, be no question of the equity of such a procedure, whatever may be the final judicial ruling. As human nature is constituted, there will probably always be many persons who will choose a life of indolence under pay rather than resort to rational means for regaining their legitimate earning power. Surely there ought to be some way of curbing this manifestation of parasitism. We may say that the law under which it is possible ought never to have been enacted. We do say so. But there the law is, a piece of iniquitous class legislation. If its tyranny can be mitigated only by resorting to an apparent subterfuge, by all means let the recourse be had.

"Apart from any question of the competency of a court to compel a man to submit to a surgical operation against his will, it may well be doubted if any self-respecting surgeon would be willing to carry out such a behest. When we feel that a procedure repugnant to a patient is manifestly almost sure to prove advantageous to him, we urge it upon him with all our powers of persuation, but we never proceed to execute it *vi et armis*. In the practice of medicine compulsion is out of place."

Civic Refrigeration.

THE medical profession and the public have much to thank their government for in the way of reforms which purpose a betterment of conditions and the preservation of health; the government has under its control all the grosser matters of hygiene and a degree of supervision of those more intimately concerned with the individual; the government is endeavoring to give us pure foods and, whether or not we can agree that all preservatives are poisons, we must agree that this endeavor is working its way to be reognized as a genuine and *unadulterated* benefit. Considering the immense amount of money that the government has expended in its campaign against boracic acid and other preservatives it seems but fair to conclude that it has a deep interest in any menace to health, and it would appear that mention of an evil should be sufficient to insure amelioration.

Climatic conditions are much the same in St. Louis during the winter months as those found in other larger cities of the country, and we would presume that civic regulations

relative to the removal of snow and ice would be the same. In St. Louis the city government has interested itself most definitely in this matter, walks *must* be cleared and without delay; this is gratifying in its final results, but the means generally adopted to the end are more dangerous to health than any amount of snow could be. We in St. Louis spend a couple of days after each snow fall walking in a slush formed of ice and salt, the coldest form of cold, and the wettest form of wet. We believe that this contributes more to the increase of the season's diseases than do the rapidly changing climatic conditions. The Government building in the heart of the business section, with its broad walks and active staff of salt sifters has its full quota of pneumonias for which it is directly responsible: the United States Government is one of the most flagrant offenders but its example is followed in every section of the city and St. Louis is deadly in its possibilities during the snow periods and disagreeable in the extreme to those who escape any serious consequences.

If a suggestion of possible danger to health is not sufficient to awaken our city government to the need of ending this practice we would suggest to the city forester, who will not allow us to trim our trees along the public highways, that salt water is death to the grass which it reaches and that it is a blight to the very trees he is so strenuously trying to preserve and make beautiful.

Dr. William Porter, of this city, recently lectured on Tuberculosis at Kansas City and St. Joseph, where anti-tuberculosis societies are being organized.

Next Event of Interest to the Physician.—The meeting of the Medical Society of the Missouri Valley, at Lincoln, Neb., March 19-20. Make your arrangements to attend, and take part in the discussions. An evening with the Pathological Club, at the State University will be one of the features of this meeting. Programs and full information by addressing the secretary, Dr. Chas. Wood Fassett, St. Joseph, Mo.

By-Effects of Vaccination at Vienna.—The mayor or burgermeister of Vienna not long ago stated, in referring to the recent smallpox epidemic there, that more persons had died from the vaccinations than from the smallpox during the epidemic. The local medical societies have been collecting data since, and have been unable to learn of any death or serious injury in consequence of vaccination. The mayor, however, will not retract his words.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

PRACTICAL DIAGNOSIS. The Use of Symptoms and Physical Signs in the Diagnosis of Disease. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Sixth edition, revised and enlarged. Illustrated with 203 engravings and 16 plates. Philadelphia and New York: Lea Brothers & Co., 1907.

Five preceding successful editions of a text-book is certainly most flattering compliment to the author. The present edition, which is thoroughly up-to-date in every detail, is worthy of the highest commendation, as it clearly represents 23 years of careful study, personal observation and original investigation. The general construction of the book is eminently suitable to both student and practitioner, as it is based on the plan of making a diagnosis by grouping the symptoms. Twenty-two chapters with an introduction devoted to general diagnostic considerations comprise the volume. The edition contains many helpful diagrams and photographic illustrations taken from actual cases.

MODERN MEDICINE. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M. D., Regius Professor of Medicine in Oxford University, etc. Assisted by Thomas McCrea, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of 1 000 pages each; illustrated. Vol. III. Philadelphia and New York: Lea Brothers & Co., 1907-08. (Price, per volume, cloth, $6.00, net.)

The third volume of this eminent work embraces a continuation of the infectious diseases and diseases of the respiratory tract. Like its predecessors, the subjects are encyclopedic, well balanced and written in a manner absorbing to the reader. Here again, editorial co-ordination is evidenced throughout, and on the whole the volume is as practical as is consistent with the advancment of modern times. Part I discusses the balance of the infectious diseases in thirteen well constructed chapters. Chapter one, on Malta fever, by Col. David Bruce of the British Army, is an expression of good judgment and throws considerable light on the manner in which the offending agent enters and leaves the economy. The subject of beriberi emanates from the pen of Maximilian Herzog, while chapter three, on anthrax, rabies and glandular Mazyek Ravenel is well written and a most excellent presentation of the subject. The subjects of tetanus, gonococcus infections and leprosy are respectively contributed by James Anders, Rufus Cole and Isadore Dyer. Tuberculosis is the most elaborately discussed subject of the volume, embracing over two hundred pages of well written matter. The authors representing these chapters are well equipped with knowledge and ability to present the subject in its highest aspect. Edwin Baldwin contributes to its

history and etiology, while the chapter on photology is written by W. G. MacCollum. The chapters on symptoms, diagnosis and prognosis, prophylaxis and treatment are respectively discussed by Lawrence Brown. The chapter on syphilis needs no further comment, as any subject identified with such names as William Osler and John Churchman speaks for itself. Thomas Boggs writes the final chapter of Part I on infectious diseases of a doubtful nature. Part II, discussing diseases of the arespiratory tract is represented by such eminent men as Thomas Brown, who writes on the mechanism of respiration and the respiratory tract; Francis Packard, "diseases of the nasopharynx, pharynx and tonsils;" W. P. Dunbar, "hay fever;" H. S. Birkett, "diseases of the larynx;" A. McPhedran, "diseases of the bronchi;" Hobart Amory Hare, "diseases of the lungs;" Frederick Lord, "diseases of the pleura;" Walter James, "pneumothorax;" and Henry Christian, "diseases of the mediastinum." To give full justice to the individual merits of these contributions one would have to elaborate far more extensively than we have done in this review, but suffice it to say that each chapter is an impress of individuality and commands the greatest respect.

THE physicians of Virginia are demanding that the license tax on physicians shall be repealed. There are some 2,700 doctors in the State and they pay something like $10 each. They contend that no other State exacts a tax from physicians and that they should not be required to pay the tax.

SQUIBB'S MATERIA MEDICA has recently been issued by E. R. Squibb & Sons. It is one-half a century since the house was founded, and during these fifty years the name and fame of Squibb's preparations have become world-wide. The book deserves a place upon every physician's desk, for it is filled with valuable information.

THE LITERATURE OF CARCINOMA.—The following figures in regard to publications on carcinoma have been prepared by Sticker: Since 1902, 3395 papers on this subject have appeared. Of these, 1960 are in German, 607 in English, 59 in French, 113 in Italian, 70 in Russian and Polish, 37 in Norwegian and Swedish, 222 in Spanish, 16 in Dutch, 9 in Hungarian, 7 in Portugese, 3 in Japanese and in Greek.

CORRESPONDENCE

RECOVERY FROM MAMMARY CARCINOMA.

The writer desires information regarding any alleged recoveries or cures of inoperable or recurrent carcinoma of the mammary gland. If any case or cases are known to any one who reads this, and can be authenticated by facts as to the history and condition prior to recovery and the length of time which has elapsed since recovery, such information will be much appreciated and duly acknowledged. Any well-authenticated reports of recoveries from carcinoma located in other parts than the mammary gland will be welcomed. Cancer paste cures, X-ray cures, radium cures, or cures as result of surgical operation are not wanted. Hearsay cases are not wanted unless accompanied by name and address of the person who can give knowledge first hand.

Address HORACE PACKARD,
470 Commonwealth Ave., Boston, Mass.

OPEN AIR SANATORIA FOR LEPROSY.

EDITOR MEDICAL FORTNIGHTLY:

I translate as follows from the Spanish of "Los Sanatorios y la Lepra" (Revista Medica de Bogota, October, 1905, No 306) article by Dr. Juan de D. Carrasquilla.

"In the month of March of the present year, we received a letter from an eminent physician of New York, director of a sanatorium, in which he says: 'The bacilli of tuberculosis and of leprosy, in my opinion, are identical. The cure of leprosy is assured only by adoption of life in tents with free air, and with proteid superalimentation. With this hypothesis, as foundation, I have treated recently a leper, precisely as we treat consumption, by exposure in a tent, and obliging him to reinforce himself with proteid ailment; he took raw eggs, milk and beef. All the symptoms disappeared, and he was apparently perfectly cured.'

"Later, he writes me that the patient remains very well, and that he has put four more in the sanatorium, to submit them to this same treatment.

"Though we are not in accord with the author of these preceding lines, as to the identity of the bacilli of tuberculosis and of leprosy, nor in the curation of it, by this treatment, for reasons that it is not necessary

to expose at this time, yet we were willing to essay the proclaimed treatment and its effect, which we recommended to a dozen patients, who submitted to it by way of experiment. Of these, only one submitted strictly to the prescription, and the result of it was very flattering. After the first night that he slept in the open air he showed the benefit of the cure; the swelling of the face diminished and progressively disappeared, during the following days. This in itself signifies much to the patients, because this symptom discovers them, and they always try to hide their disease. The remainder of the patients could not or would not follow out the treatment, pretending something to escape from recourse to the superalimentation, or that they "caught cold," or that it gave them neuralgia.

"Although we do not believe in the cure of leprosy, obtained by this treatmet, still we think it produces amelioration, with little danger of damage, and it would appear to us that it may be recommended, particularly the air-cure as is practiced in sanatoria" (J. de Dios Carrasquilla).

I add also an article which appeared in the Public Ledger of Philadelphia, November 23, 1907:

PROBLEM OF CARING FOR LEPERS MAY CONFRONT PENNSYLVANIA.

"Are the authorities of Pennsylvania aware that this State is fast becoming a resort for New York's lepers?"

This query appears in a letter written to the editor of the Public Ledger by Dr. Albert S. Ashmead, leprologist, and resident of New York City, late foreign medical director of the Tokio Hospital, Japan, and late a member of the provisional committee, Berlin Leprosy Conference.

Dr. Ashmead charges that lepers freely cross the New York State line into Pennsylvania and spend the summer season there, and, without revealing the names, tells of five such visitors, known personally to him who remained for two months in various localities. The letter, in addition to making these charges, appeals for recognized open-air sanitaria, either State or interstate, located in the country, under medical supervision, for the care of these persons. He scoffs at a recent decision of the New York Board of Health that leprosy is not contagious, declares that victims of this disease freely enter the port of New York and mingle in places of public entertainment, to the peril of the community, and demands that restrictions be imposed.

In opening his letter, Dr. Ashmead describes his own efforts to open a consumptive retreat in Pennsylvania, which had to be abandoned because of inimical public sentiment, despite the fact that the site of the camp was fifteen miles from the railroad and summer colonies. Instead of an institution, frankly operated for consumptives under medical direction, he declares, the same patients now are scattered among farmhouses or in private camps, undertaking to cure themselves, surrounded by none of the safeguards for the community which medical supervision assured.

His letter continues:

"How much better would it have been for the people of Pensylvania to have permitted the continuation of our little camps for consumptives. In the case of mine, there would be present now, in that very locality, a physician who would be treating consumptives, and at the same time would be on the ground to detect the presence of patients afflicted with quite another disease, now threatening the people there.

"Let me explain this:

"Recently one of New York's lepers spent five months at popular hotels in Pennsylvania. Not a soul suspected this person of being a leper. Not a doctor of the locality was able to recognize the disease. The leper ate at the public table, occupied rooms which others afterward used, slept on sheets and used towels common to all. He was everywhere welcomed to their society on the porches and in the sitting rooms with wide open arms.

Dr. Ashmead continues:

"Each leper is mostly his own doctor, and these unfortunates have found out for themselves the partial curation of leprosy to be derived from the pure air life. The leper bacillus does not like dry air. Hence, every leper who submits himself to its benefits must improve and start on the road to recovery merely by breathing the dry medium."

Dr. Ashmead quotes the opinion of the New York Board of Health that leprosy is not contagious, and cites the fact that five lepers now confined on Blackwell's Island in the harbor of that city are under the care of the Charity Commissioner, as paupers, and not under charge of the Health Department. This decision, he declares, is at variance with the opinions of eminent students of leprosy in all parts of the world.

Summarizing his views Dr. Ashmead says:

"I favor a mountain air sanitarium for the public care of lepers in each State or in every two States. Let us not hide either the con-

sumptive or lepers. They are both human, and the one class is no more dangerous to communities, properly cared for by competent physicians, than is the other. But to let either class of patients attempt to cure themselves in secret, migrating from place to place at will, without any physician in charge, is baneful to the general health.

"Could we not obtain a legislative appropriation for a State sanitarium for lepers just as reasonably as for consumptives? The care of the first is just as important as that of the last.

"It would be of immense importance to Pennsylvania, threatened as she is by New York's lepers, to have them cared for openly and above board. There would be present

Outdoor life of lepers in Pike county, Pennsylvania. Photograph taken on the spot.

always a competent physician who knows leprosy when he sees it. In such way there need be no secret about lepers obtaining the benefit of mountain air.

"From lepers, my patients, I learn these facts. I know what they do, and, from time to time, hear from them when away from the city as to what they are doing.

"I trust that it will be clearly understood that my only purpose in detailing these facts is to agitate the question of open-air sanitaria for lepers. Let us not hide our heads like the ostrich, but let us kill off by free discussion the foolish opposition of ignorant people to the establishment of such sanitaria. We should not be forced to obtain the greatest benefit for consumptives and lepers in a secret way."

Dr. Ashmead has been active in efforts to have leprosy recognized as a national peril. He is the author of a bill to have national sanitaria established. This bill has been in charge of Representative Wanger, of this State. Because of the decision of the New York Board of Health that leprosy is not contagious, and its victims not subject to the usual oversight, that city, Dr. Ashmead declares, has become a Mecca for victims of the disease. The fact that they enjoy complete freedom and that the disease is not recognized by those with whom they come in contact he declares to be a source of grave peril, not only to Pennsylvania, through the summer time invasion of lepers, but to the whole country in the possibility of the spread of the malady.

DR. DIXON OPTIMISTIC: CASE FOR CONGRESS.

Dr. Samuel G. Dixon, State Health Commissioner, when told of the allegations contained in Dr. Ashmead's letter, expressed the conviction that there was no reason to fear an incursion of Pennsylvania by New York lepers. He was decidedly opposed to the establishment by the State of leper sanitaria, whether in Pensylvania or elsewhere, and maintanied that the Federal Government should and probably would establish such institutions.

As to the communicability of leprosy, Dr. Dixon declared that while there was difference of opinion on this point, he rather inclined to believe that conditions must be extremely favorable to permit of contagion. He could almost assert that one must be inoculated in order to contract the disease. He said:

"It is hardly likely that many lepers could come from anywhere into Pennsylvania, without my knowing it. I have 751 trained health officers constantly on the alert, who could report at once every suspicious case. Of course, I know that a person may have leprosy in parts of his body not exposed to view. It seems a rather remote possibility, however, that five lepers could come into Pennsylvania without my knowning of the presence of one of them. Gossip travels fast, you know, and in some way my men would hear of such cases.

"There is absolutely no danger to be feared from lepers and leprosy by our people. It is a disease that must be reported in Pennsylvania.

"I do not favor the establishment of State sanitaria for lepers, certainly not in Pennsylvania, for the expense would be almost to no purpose. We have only one case of leprosy in the State, that of the Chinaman in Harrisburg. New York has, well, no one knows how many, since the disease is not taken cognizance of by its Board of Health.

"It would be more equitable for the Government to take charge of all lepers. I have written to President Roosevelt on the subject, and have reason to believe that legislation looking to the establishment of sanitaria by Congress will be enacted, probably at the next session.

"Where to establish such sanitaria I would not venture to suggest, but I do not think Pennsylvania would be the most favorable place for one them, and I quite agree with Dr. Ashmead concerning the adaptability of the locations he proposes."

"Dr. Jay F. Schamberg also took issue with Dr. Ashmead on the number of cases which the New York physician mentions as well as the points involved in his suggestions. He agreed with Dr. Dixon that sanatoria for lepers should be conducted by the United States Government."

I enclose a photograph taken on the immaculate soil of Pennsylvania to corroborate my contention. Drs. Dixon and Schamberg do not know what they are talking about. A leper stayed last summer at Buckhill Falls Hotel, a fashionable Hicksite Quaker resort, and also at the fashionable Ontwood.

ALBERT S. ASHMEAD, M. D.
50 Cathedral Parkway, New York.

ANNOUNCEMENT is made of the establishment of an institute for cancer research in Japan. A journal will be published by members of its staff and literature on cancer from English, French, and German journals will be reviewed.

SPANISH law requires mothers to refrain from work for a period of four weeks after childbirth, and factory managers are compelled to retain on the payroll women absent for this cause. Provision is likewise made for nursing the infant, time being allowed in the morning and afternoon for the purpose.

DO YOU CARRY EMERGENCY MEDICINES? —The physician makes a sorry spectacle if when called suddenly face to face with a case of syncope, uterine hemorrhage, billiary or renal colic, etc., he is without the necessary agents to give relief. He can write a prescription, yes, but in the meantime valuable time is lost; and when the emergency is at night, the "prescription" is sometimes a mockery. An hour or two may pass before one succeeds in having the prescription filled. A physician told us that he was once called to a distressing case of angina pectoris, at night, and the circumstances were such that he would willingly have given a hundred dollars for a pearl of amyl nitrate, put into his hands that night.—Critic and Guide.

SOCIETY PROCEEDINGS

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, held in St. Louis, December 30-31, 1907.

The President, Dr. Charles W. Oviatt, Oshkosh, Wis., in the chair.

Largest Common Duct Stone on Record.

Dr. Willard Bartlett, St. Louis, Mo., reported the case of a man, 46 years of age, who gave a history of gallstone disease extending over twenty years, which was referable to the common duct. The stone could be palpated through the abdominal wall; still the man was jaundiced only at times. The stone measured 4 inches in length by 1½ inches in diameter and weighed 2½ ounces. The duct was partly sutured and drained for one month. Five months later the patient was in better condition than he had ever been in his life before.

The Pathologic Gall Bladder.

Dr. B. B. Davis, Omaha, said that because a patient has lived through an operation, it does not necessarily mean that he is cured. Unless the gall bladder continues to functionate normally and painlessly, the patient is not willing to consider himself cured.

Many of the patients in whom drainage is instituted have a recurrence of the symptoms and a secondary cholecytectomy becomes necessary. This usually produces a relief of all symptoms.

The following conditions, in Davis' experience, call for extirpation: 1. Adhesions between the gall bladder and the stomach, colon or omentum. 2. Stenosis, or even narrowing of the lumen of the cystic duct, due to old inflammation or pressure necrosis from an impacted stone. 3. Gall bladders with thickened walls due to long continued cholecystitis. 4. When external fistulas or fistulas between gall bladder and the stomach or colon are present. 5. When the gall bladder wall is made up of scar tissue largely displacing the normal muscular coats. 6. When the gall bladder is found filled with mucus clear or tarry, and there is not fresh bile. 7. In gangrene. perforation and empyema of the gall bladder.

Cholecystostomy in the presence of the conditions given, as a rule, does not relieve, and extirpation has to be done later. In most cases the cholecystectomy can be done as a primary operation, without adding to the operative risk. The author believes in the retention of every gall bladder that will not be a menace to future comfort.

Differential Diagnosis of Duodenal Ulcer from Gallstones.

Dr. W. D. Haines, Cincinnati, Ohio, said that the prominent symptoms in common are pain, vomiting and gas, pain in the upper right quadrant of the abdomen. While in cholelithiasis, the pain, which is sharp, decisive and of sudden onset, is referred to a point opposite the right ninth costal cartilage, it may radiate over the entire right side of the abdomen, and not infrequently to the right shoulder joint or to the region of the tenth dorsal vertebra. Vomiting, if present, is characteristic in that the ejected matter is bile stained, consisting largely of mucus, and affords no relief to the patient. Hot fomentations may give temporary relief, but full doses of morphine are usually required.

In duodenal ulcer the pain recurs at intervals, is less sudden of onset, and severe in character. It is described as a burning or gnawing sensation, which may last a few days or continue for months after the primary attack. Some relief invariably follows the ingestion of a full meal, lavage of the stomach, or the drinking of a quantity of alkaline fluid. The spasm of the pylorus is a frequent accompaniment of ulcer, but wholly unknown in early gallstone cases. Spasm of the diaphragm is evidence of severe pain, which, if referred to the region under consideration, indicates gallstones, as ulcer pain, in the absence of perforation, is not of sufficient severity to produce this symptom. Gaseous distension speaks for ulcer, and the accompanying pain quickly subsides after expulsion by eructations or vomiting. Muscular rigidity and local tenderness are present in both ulcer and stone cases. The slight transitory disturbance of the one, and invalid-dealing influence of the other, will materially assist in putting one right in the diagnosis. Hemorrhage occurring during an attack of gallstones is accidental, but it is prominent as one of the late manifestations in ulcer. Jaundice, like hemorrhage, is a late symptom and may be present in either of the conditions under consideration. Jaundice following laninating pain of sudden onset, localized in the upper right quadrant of the abdomen, radiating over the right chest wall or accompanied by pain in the right shoulder, will warrant a conclusion of the presence of gallstones. Constipation is one of the early effects of duodenal ulcer. In a certain percentage of chronic and some of the acute cases of stone and ulcer, differentiation will be reserved for exploratory incision.

Peptic Ulcer of Jejunum.

Dr. F. Gregory Connell, Oshkosh, Wis., reported one case of this character in which a second gastroenterostomy was performed three years after anterior gastroenterostomy for pyloric ulcer with stenosis, and presented an analysis of thirty-nine cases found in the literature. He concludes that: 1. Peptic ulcer of the jejunum is a possible result of gastrojejunostomy. 2. It is probably of more frequent occurrence than the thirty-nine reported cases indicate. 3. It follows the long loop operation more often than the no loop operation. 4. The symptoms may be latent until either acute hemorrhage or perforation occurs. 5. The symptoms may be chronic and simulate those of gastric or duodenal ulcer. 6. Peptic ulcer of the jejunum should be considered in all cases of return of symptoms after gastrojejunostomy. 7. A symptomless period after the operation is neccessary to eliminate a continuation of the condition for which the gastrojejunostomy is performed. 8. A differential diagnosis can rarely be made before operation. 9. Prophylactic treatment, aiming to reduce the excess of acidity, should be instituted after all gastrojejunostomies for benign conditions, and should be continued for at least six months. 10. Treatment is either medical or surgical, similar to that for gastric or duodenal ulcer. 11. The possible occurrence of ulcer of the jejunum is an additional reason for performing gastrojejunostomy only where it is positively indicated, namely, by pyloric obstruction.

Removal of Gallstones in Common Duct Through the Lesser Omentum.

Dr. M. L. Harris, Chicago, said that the gall bladder and its contained stones may be enucleated without much difficulty, but if the common duct harbors stones, it may be impossible to reach them by the usual route. He referred only to those cases in which the stone is in the upper part of the duct or movable within the duct, and which, owing to the pyloric end of the stomach having been drawn to the right by the adhesions, lies behind this portion of the stomach as well as the duodenum. In two cases of this kind which have come under his care, after a somewhat prolonged, fruitless effort to reach the common duct in the usual way, he succeeded in reaching and removing the stones by following a new route through the gastrohepatic or lesser omentum above the pyloric end of the stomach. These two cases he reported in detail. The advantages of this route in these cases are the greatest saving of time over attempting to work

one's way through an almost impossible mass of adhesions, and lessened dangers of injuring the duodenum or other structure.

Acquired Atresia of the Common Duct Due to Gallstone.

Dr. John C. Hancock, Dubuque, Iowa, reported the case of a woman, aged 66, on whom he operated for an acquired atresia of the common duct due to gallstone. Patient left the table showing signs of shock and hemorrhage, and died fourteen hours later from complete exsanguination. A partial autopsy confirmed the findings at operation. The gall bladder was contracted to the size of an olive. The common and hepatic ducts were greatly enlarged. At the junction of the cystic and common ducts was found a cicatricial contraction of the cystic duct. In the bladder and duct were several small flat concretions. On removal of the large stone from the lower end of the common duct, the condition of artresia of this duct was discovered. The lower end of the duct was perfectly smooth, without a sign of opening into the duodeum and might be likened to the blind finger end of a rubber glove. Macroscopically, the liver presented the appearance of hypertrophic cirrhosis, but under the microscope the changes of atrophic cirrhosis, were present. Macroscopic examination showed artesia of both the common duct and that of Wirsung. The duct of Santorini could not be found, and there was entire absence of the papilla on the duodenal side. Microscopically, the ductus choledochus, that of Wirsung, the pancreas and duodenum, show chronic inflammatory changes, but no malignant elements. Bile was present in the common duct. The stone was found to be a mulberry calculus, composed almost entirely of cholestrin, with the poles made up, superficially at least, of bile pigment and calcareous salts.

DISCUSSION.

Dr. Charles H. Mayo, Rochester, Minn., said that he and his brother have done 2,200 operations on the gall bladder and ducts. Of this number, there are over 600 cholecystectomies, and about 300 operations on the common duct. A few years ago they had a leaning toward the removal of the gall bladder if there was any disease of the mucosa perceptible, while now they are inclined to leave the gall bladder if the cystic duct is open. The operation, however, of the removal of the gall bladder, as a secondary procedure, is not as serious as operations on the common duct which may be necessitated later, after the removal of the gall bladder. They believe that the removal of the gall bladder results later, in a majority of cases, in the distension of the common duct. They have had five cases of re-formation of stones in the common duct, and three of them after the removal of the gall bladder. In all of the series of cases, the speaker only recalls two in which, after the primary operation of removing gallstones from the gall bladder, stones reformed in that viscus.

Dr. C. H. Wallace, St. Joseph, Mo., reported the case of a woman on whom he operated some two years ago for the removal of stones in the gall bladder. The gall bladder itself was found in a fairly good condition; the mucosa was not diseased, not very much enlarged, and the walls not much thickened. A number of stones were removed, and drainage established. Some four or five weeks ago this woman began to have attacks again. In the third or second attack she passed three or four small gallstones. This is a case in which the question arose as to whether in doing a second operation the gall bladder should be removed or drainage again tried. He thinks surgeons get the impression from those who do a large amount of gall bladder surgery that if in a given case there is a healthy gall bladder with stones in it, where the mucous membrane is not diseased, if the stones are removed and the gall bladder drained, the patient can be assured that he or she, as the case may be, will get well. Occasionally, however, such patients return, and the guarantee of such a prognosis can not be given now with as much assurance as in former years.

Dr. J. E. Summers, Omaha, Neb., seven or eight years ago reported a case in which there was a tight stricture at the lower end of the common duct, and also of the cystic duct, the common duct acting as a reservoir. The liver was very much hypertrophied, as was also the spleen. The technic employed was to open the common duct and to make an anastomosis between this and the duodenum. The patient recovered.

Dr. James E. Moore, Minneapolis, referred to two cases with ordinary gallstone symptoms. In one the stones were removed and the gall bladder drained. The symptoms recurred and gallstones were found in the gall bladder; the gall bladder was diseased and cholecytectomy was performed. The interesting feature about these two cases is that these women are suffering again with gallstone colic. What should be done for them? The only hope is that there is a stone in the common duct that may be reached.

Dr. John C. Morfit, St. Louis, reported two cases of bowel obstruction due to gallstones. In one case the bowel was obstructed at about 18 inches above the ileocecal valve by a stone an inch and a quarter in diameter and an inch and a half long, which evidently came from the gall bladder. The woman, aged 80, made a very satisfactory immediate operative recovery. However, pneumonia developed on the eleventh day, and she died on the fifteenth day after the operation. A postmortem examination was not made, but the question arose as to the pathologic anatomy in the region of the gall bladder. How did this stone get into the intestine? Did it come through the common duct or did an inflammatory anastomosis occur between the gall bladder and some portion of the alimentary canal? He believes that there was, as a result of pre-existing inflammation, an ulceration or anastomosis between the gall bladder and duodenum, or possibly some portion of the small intestine. In the second case he found a stone in practically the same location at once, the stone being of the same size and consistency. The intestine was opened by a linear incision, the stone liberated, the incision closed, and the patient made an uneventful recovery.

Surgical Treatment of Hallux Valgus, with Bunion.

Dr. Charles H. Mayo, Rochester, Minn., recommends for this condition a curved incision, base down, over the metatarsophalangeal joint. The bursa of the bunion is preserved, and left attached to the base of the first phalanx. The head of the metatarsal bone with the greater part of the bunion is removed. The bursa is turned into the joint in front of the cut end of the bone. This is utilized a ready formed bursa to prevent joint fixation, a result which is obtained in other joints with difficulty by turning fatty tissue into a joint to develop such bursa. The general function of the joint is nearly perfect, and continues to be so after many years.

Removal of Whole or Part of Humerus.

Dr. E. M. Sala, Rock Island, Ill., said the removal of the whole or a part of he humerus is a comparatively safe operation, and one which should be carefully thought of in all cases where amputations were formerly the first aid to the injured in serious disturbances of the humerus. He thinks too many arms have been sacrificed in the past that might have been saved had the surgeon cared to try an extirpation of only the diseased portion of bone. That it is possible for a whole or a part of the humerus to be extirpated, and the patient given a useful hand and forearm, is beyond doubt. One third of the upper end of the humerus may be removed, and the patient appear as though nothing had ever happened to the upper extremity except shortening on that side. The whole humerus may be removed without serious disturbance to the hand and wrist especially if care is exercised in saving the musculo-spiral nerve in its separation from the bone. Dr Sala reported two cases operated on some thirteen years ago in which the results of conservative surgery are remarkable.

Dr. Roland Hill, St. Louis, referred to a case in which the upper part of the humerus was involved and which was removed. This man had been taken ill in 1892 with a septic condition involving the upper part of the humerus and also the glenoid part of the scapula. In the winter of 1905 Dr. Morfit opened the joint and removed some dead bone from the upper part of the humerus and also from the scapula. The patient returned home at the end of five weeks in a much better condition, but in the summer he began to be septic again. He returned in July, at which time there was a constant discharge of pus. He opened up the parts freely, removed the head of the bone, cleaned out the cavity thoroughly and packed it. The patient improved very much, went home, but the point did not heal up. There was a constant discharge, and in March, 1906, the patient came back with the idea of having the arm removed. Dr. Hill made one more effort to save it, opened it up, curetted the diseased tissue, and found there was some necrosis at the head of the bone extending down to the medullary cavity, which was removed. He thoroughly dried it and sterilized the parts with carbolic acid and alcohol and then filled the cavity with a Moorhof's bone mass. The arm was not dressed again for a week. In about six weeks thereafter healing had taken place. The arm was kept in a sling for four months, at the end of which time patient was able to use it and has been using it ever since.

Dr. W. D. Haines, Cincinnati, mentioned a case in which he removed the humerus almost down to within two inches of the condyles. No attempt was made to save the periosteum. The patient today has a useful arm. He endorses this method with reference to primary amputation, stating that amputation, if really necessary, can be done later.

[TO BE CONTINUED.]

DON'T measure a man's sincerity by the vigor of his handshake.

FINANCIAL BRAINSTORMS.

Don't be ashamed to take the money; you may need it.

Don't buy any more than three gold bricks; that's a big enough collection for any individual.

When you are hard pressed by your creditors, remember the debtors you are carrying on your books.

Get the habit. Mail statements monthly in the city, and at least every three months in the country.

To get the wherewithal for your fall vacation, send statements to all your families the first of next month.

If wealth were the criterion by which to gauge success in medicine, failure and medicine would be synonyms. It is your duty to the public to attend calls for distress, but is also your duty to your family to get pay therefor to avoid calls of distress.

Money is the root of evil, but we must become philosophical enough to accept the evil of money with the good of service to our fellow-man.

The accounts you are carrying of some of your gilt-edge families may be as good as a bank account, but the money is not bearing interest for you.

Simple living and high thinking is most excellent, but we need the filthy lucre to make the appearance of great prosperity, or our practice "gangs aglee."

Financiers and oil merchants indulge in philanthropy after amassing a fortune; physicians never amass fortunes because they indulge in too much philanthropy.

Neither Gates, Harriman nor Rockefeller ever attempted to get a corner on mining stocks. Possibly they thought it impossible, as physicians buy them up too readily.—Lancet-Clinic.

Ohio Medical Teachers Meet.—The third annual meeeting of the Ohio Association of Medical Teachers was held in the afternoon and evening of December 27, and was the most successful in the history of the organization. About seventy-five members were present, besides a number of visitors, among them the presidents of several literary colleges of the state. Interest in this organization has increased, and its members feel that much good has been accomplished.

The Medical Fortnightly

A Cosmopolitan Biweekly for the General Practitioner

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scentific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

Advertising forms close on the first and fifteenth of each month. Time should be allowed to submit proof for correction. Advertising rates on application.

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The Medical Fortnightly will not be discontinued at expiration of subscription, as many of our readers prefer not to have their files broken on account of failure to remit. Unless we receive a distinct request to discontinue, and payment for all arrearages, this magazine will not be discontinued.

Subscriptions may begin at any time; volumes end with June and December.

Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

Editorial offices in St. Louis and St. Joseph, where specimen copies may be obtained, and subscriptions will be received.

Contributions and books for review should be addressed to the Managing Editor, 319 and 320 Century Building, St. Louis, Mo.

MEDICAL MISCELLANY

Olive Oil in Gallstones.—Dr. R. Alexander Bate, of Louisville, Ky., believes that olive oil does dissolve fresh cholesterin calculi, and that all conditions characterized by an excess of organic acids are accompanied by gallstones, and states that only bilirubin calcium calculi appear unchanged in the evacuations of those receiving olive oil internally. Surgery, he thinks, is only indicated in cases where exhaustion would take place before solution of the calculi could occur. Of fourteen patients observed by the author, all of which were operated on and died. In two instances a recurrence took place. Nine patients had been apparently cured by the medical treatment.—Medical Bulletin.

CUSTOMER—Look here! I bought a bottle of your hair restorer last week, and all I've got from using it is a couple of large bumps on my head.

Hairdresser—Good gracious! I must have made a mistake and given you a bottle of our bust developer.

WILLIAM E. OGLESBEE, a Springfield (O.) physician, went into voluntary bankruptcy recently. He owes $9223.86 and has books, medical instruments, and household furniture worth $650. A business man lecturing to the students of the University of Cincinnati recently advised them not to enter upon a professional career, that a business career offered greater remuneration. Judging by the foregoing, he wasn't very far wrong.

EPIDIDYMITIS.—For first six days:

℞ Guaiacol..... ʒiiiss
Adipis..... ʒii

Sig.: Rub in gently and apply on lint. Envelop testicle in cotton and apply snug suspensory bandage. After the first week:

℞ Ung. hydrarg.....
Ung. belladon.....
Ichthyol.....
Sanolini.....aa ʒii

Sig.: Apply locally.—Christian.

DAMAGE SUIT NON-SUITED.—A damage action to recover $10,000, brought by Miss Appelline Belland against Dr. R. Barrington Nevitt, Toronto, was tried November 28th in the non-jury Assize Court, before Mr. Justice Maybee. Miss Belland underwent an operation at St. Michael's Hospital last February. She claimed at the trial that the doctor exceeded his instructions, and that, moreover, he allowed the operation to be witnessed by a number of students. She also stated that she received very unkind treatment in the hopsital, that the doctors were cruel to her, and that the nurses tried "to make way" with her. Dr. Nevitt in the witness box said the operation was an exceedingly difficult and dangerous one, and that it was utterly impossible to perform it in any other way. If the operation had been left incomplete the patient would inevitably have died. The patient was non-suited, and the case was summarily dismissed by Mr. Justice Maybee.

LIST OF ANALYZED ALCOHOLIC MEDICINAL PREPARATIONS.—The United States Commissioner of Internal Revenue publishes, in Internal Revenue Circular, No. 713, under date of December 3, 1907, for the guidance of collectors of internal revenue and revenue agents, a list of alcoholic medicinal preparations which have been analyzed by his office and classed as compound liquors under the ruling in treasury decision No. 1251, and for sales of which the special tax of liquor dealer is required. It must be clearly understood, however, he says, that the list given is not exclusive, and does not purport to give the names of all the preparations for the sale of which special tax is or may be required, but embraces only those which have been analyzed by this office and held to be sufficiently medicated to render them unsuitable for use as a beverage. The names of a number of preparations which have been held in previous rulings and letters to be suitable for such use, the manufacture of which has been discontinued or the formulas so modified as to change their classification, are omitted. For the sale, subsequent to January 1, 1908, of any of the preparations here given, or of any other preparations which do not come within the requirements of the law as to medication, as interpreted in Treasury Decision No. 1251, special tax will be required, even though such sale is made in good faith for medicinal purposes. The question of the proper classification of the various malt extracts now on the market is still under consideration. The list given is:

Angostura Aromatic Tincture Litters.
Aroma Stomach Bitters,
Atwood's La Grippe Specific.
Augauer Bitters.
Augauer Kidney-Aid.
Belvedere Stomach Bitters.
Bonekamp Stomach Bitters.
Bonekamp Bitters.
Brown's Aromatic Cordial Bitters.
Brown's Vin Nerva Tonic.
Botanic Bitters.
Chinchona Bitters.
Clifford's Cherry Cure.
Cooper's Nerve Tonic.
Cuban Gingeric.
Dandelion Bitters.
De Witt's Stomach Bitters.
Dick's Nutritive Elixir.
Dr. Dade's Blackberry Cordial.
Dr. Bouvier's Buchu Gin.
Dr. Fowler's Meat and Malt.
Dr. Gray's Tonic Bitters.
Dr. Hortenbach's Stomach Bitters.
Dr. Worme's Gesundheit Bitters.
Dr. Rattinger's Bitters.
Duffy's Malt Whiskey.
Gilbert's Rejuvenating Iron and Herb Juice.
Ducro's Alimentary Elixir.
Ginger Tonic.
Ginseng Cordial.
Green's Chill Tonic.
Harrison's Quinine Tonic.
Jerome's Dandelion Stomach Bitters.
Jones' Stomach Bitters.
Juni Kola.
K. K. K.
Katarno.
Kudros.
Lemon Ginger.
Laxa Bark Tonic.
Magen Bitters.
Meta Multa.
Obermueller's Bitters.
Old Dr. Scroggin's Bitters.
Panama Bitters.
Rockandy Cough Cure.
Royal Pepsin Tonic,
Scheetz Bitter Cordial.
Smith's Bitters.
U-go.
Uncle Josh's Dyspepsia Cure.
Warner's Stomach Bitters.
Westphalia Stomach Bitters.
Williams' Kidney Relief.

JUST WHAT IS AN OBSESSION.—This word may be defined as an insistent and compulsive thought, habit of mind or tendency to action. The person so burdened is said to be obsessed. Few children are quite free from obsession. Some must step on stones; others must walk on or avoid cracks; some must ascend the stairs with the right foot first; many must kick posts or touch objects a certain number of times. Some must count the windows, pictures, and figures on the wallpaper; some must bite the nails or pull the eye-winkers. Consider the nail-biter. It cannot be said that he toils not, but to what end? Merely to gratify an ob-

session. He nibbles a little here and a little there, he frowns, elevates his elbow and inverts his finger to reach an otherwise inaccessible corner. Does he enjoy it? No, not exactly, but he would be miserable if he discontinued. It is during childhood that we form most of the automatic habits which are to save time and thought in later life, and it is not surprising that some foolish habits creep in. As a rule, children drop these tendencies at need, just as they drop the roles assumed in play, though they are sometimes so absorbing as to cause inconvenience. An interesting instance was that of the boy who had to touch everyone wearing anything red. On one occasion his whole family lost their train because of the prevalence of this color among those waiting in the station. The longer these tendencies are retained in adult life the greater the danger of their becoming coercive; and so far as the well-established case is concerned, the obsessive act must be performed, though the business, social and political world should come to a standstill. A child who must kick posts is father to the man who cannot eat an egg which has been boiled either more or less than four minutes; who cannot work without asolute silence; who cannot sleep if steam pipes crackle, and who must straighten out all the tangles of his life, past, present and future, before he can close his eyes in slumber or take a vacation. The boy Carlyle, proud, shy, sensitive and pugnacious, was father to the man who made war upon neighbors' poultry and had a room proof against sound specially constructed for his literary labors.—Lippincott's.

Mercurial Pills.—Pills are assuredly the least recommendable form in which to administer mercury. It is obvious that the mercury may not be equally distributed throughout the pill mass and, on the other hand, they are not always assimilated indeed old or ill made pills may traverse the alimentary canal unaltered. In spite of these drawbacks pills have the advantage of being cheap, easily dissimulated, convenient and tasteless. This is why many patients refuse injections or mixtures in favor of pills. In such cases it is useful to be acquainted with a few good pill formulae and Dr. Martinet gives us several useful suggestions on this matter. The active substance may be selected from those in general use: the perchloride, in average doses of a third to half a grain daily, at the rate of a sixth-of-a-grain in each pill; the protoiodide in doses of one to three grains daily, one grain in each pill. The vehicle may be extract of cinchona, extract of opium, extract of guaiacum or powdered gentian root which increase the tolerance of the stomach for mercurial preparations. Unfortunately these substances are very liable to become hard and convert the pills into little insoluble masses so that they pass through unchanged. It is therefore desirable to make use of a hydrophile substance which will keep the pills soft and assist in their prompt disintegration when taken. Nevertheless this hygrometric property must not be too marked, otherwise our pills will be deliquescent. Ricord employs confection of roses, but it is simpler and better to use glycerine. This addition is doubly advantageous in that it prevents hardening and enables the careful pharmacist to ensure a more perfect distribution of the active substance, these being the two great desiderata in pill making. With these data before us we may prescribe:

Dupuytren's Pills (modified):

Perchloride of mercury	gr. $\frac{1}{6}$
Extract of opium.....	gr. $\frac{1}{3}$
Extract of guaiacum.....	gr. $\frac{2}{3}$
Glycerine Q. S.	

In one pill. Mitte 60.

Or

Perchloride of mercury.....	
Extract of opium.....aa	gr. $\frac{1}{6}$
Powdered gentian root.....	gr. i
Glycerine, Q. S.	

Or

Perchloride of mercury.....	
Extract of opium.....aa	gr. $\frac{1}{6}$
Soft extract of cinchona.....	gr. i
Glycerine Q. S.	

In one pill. Mitte 60.

Richards Pills (modified):

Protoiodide of mercury.....	gr. i
Extract of opium.....	gr. $\frac{1}{3}$
Confection of roses.....	gr. ii

In one pill. Mitte 60.

Danlos' Pills:

Protoiodide of mercury.....	gr. $\frac{5}{6}$
Powdered gentian.....	gr. $\frac{5}{6}$
Powdered opium.....	gr. $\frac{1}{6}$
Glycerine Q. S.	

For a pill. Mitte 60.

Or

Protoiodide of mercury.....	gr. $\frac{5}{6}$
Extract of opium.....	gr. $\frac{1}{6}$
Soft extract of cinchona.....	gr. i
Glycerine Q. S.	

In one pill. Mitte 60.

All these pills may be given in an average dose of two or three at the beginning of or after meals. The dose may in some cases require to be increased to four, five or even six, if well borne,—Le Monde Medical.

Glycozone

$(C_3H_6O_4 + C_3H_8O_3)$

ABSOLUTELY HARMLESS.

Indorsed and Successfully used by leading Physicians in the treatment of

DYSPEPSIA, GASTRITIS, GASTRIC ULCER and CONTAGIOUS DISEASES of the STOMACH and INTESTINES.

In order to prove the efficiency of GLYCOZONE, I will send a **$1.00 bottle free** to Physicians accompanying their request with 25c. to pay forwarding charges.

A copy of the 18th edition of my book of 340 pages, on the "Rational Treatment of Diseases Characterized by the Presence of Pathogenic Germs," containing reprints of 210 unsolicited clinical reports, by leading contributors to Medical Literature, will be mailed free of charge to Physicians mentioning this Journal.

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Charles Marchand

Chemist and Graduate of the "Ecole Centrale des Arts et Manufactures de Paris" (France)

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MEATOX

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Contains from 74 to 82% of digestible Protein

Medico-Chirurgical College of Philadelphia

DEPARTMENT OF PHARMACY

DEAN'S OFFICE

I.V.STANLEYSTANISLAUS,Ph.g.,B.Sc.Phar.D.,Dean

Philadelphia, Pa., March 28th, 1907.

ANALYSIS OF MEATOX

Moisture	4.80
Celery Flavoring (residue from alcohol extract)	2.21
Sodium Chlorid	4.56
Proteid Matter	73.54
Insoluble Matter	9.43
Total	94.54
Ash	4.96
	99.50
Loss	.50

Submitting the inclosed analysis I take pleasure in stating that basing it on the protein content this is the most wonderful exponent of the modern nutrients extant. It is practically five times the meat value as a food, and as such will command the attention of every physiologist and hygienist interested in food products.

I. V. S. STANISLAUS, Analyst.

CHEMICAL LABORATORY

H. ENDEMANN, PH. D.

ANALYSES, CONSULTATIONS AND RESEARCHES

23 William St., New York, October 16, 1907.

ANALYSIS OF MEATOX

Contains in 100 parts by weight:

Nitrogenous matter calculated as Albumen	12.02
Fibrin, digestible	70.34
" indigestible	.90
Extractive matter free from Nitrogen	2.18
Fat	7.00
Meat Phosphates	.26
Chlorid of Sodium	.94
Water, hygroscopic	6.34

No foreign preservatives are present. Especially tested for Boric Acid, Salicylic, Benzoic, Fluorine, Sulfurous Acid and Formaline.

From the large quantity of soluble Albumens and digestible Fibrin it is evident that this preparation in connection with the fat therein furnishes an excellent nutritive, easy of digestion. H. ENDEMANN.

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MEDICAL MEMORANDA.

Physicians, Attention.—Drug stores and drug store positions anywhere desired in United States, Canada or Mexico. F. V. KNIEST, Omaha, Neb.

Twenty Hospital Cases.—I have used the H-M-C anesthetic successfully in twenty cases, full reports of which I have kept, as they were all hospital cases.—J. B. Wright, M. D., Trenton, Mo.

Syrup Cocillana Comp. (P. D. & Co.) is a preparation that appeals especially to the prescription writer who desires an ethical, efficient remedy in acute bronchitis. It does not constipate nor lock up the secretions. It is not sold over the counter as a "cough syrup."

Erysipelas—Pneumonia.—(W. E. Srofe, M. D , Martinsville, O.)—June 5, 1905, I was called to attend Mr. K. I found him suffering with a very aggravated case of facial erysipelas. I applied my usual treatment of carbolized salve locally, and gave the proper internal treatment, but when I saw the case again in twenty-four hours I found symptoms no better. I thought I would try antiphlogistine. After applying the salve to the face, I spread antiphlogistine on a cloth making a mask that would cover the entire face, directing nurse to change when it dried out. Next day I found patient much improved. He said "that clay relieved all the burning five minutes after you applied it." I now make it a rule to use antiphlogistine in treating erysipelas, and I am sure my patients get along faster than they did when treated without it. I also use antiphlogistine in pneumonia, and all cases of inflammation of the lung or pleura. Indeed I would hate to have to treat this kind of cases without antiphlogistine. I will report on one case of an infant where I believe this remedy saved the patient's life : January 3, 1906, infant, age 18 months. Two days after initial fever, temperature 104 deg., respiration 48, pulse 120; tongue coated, could hardly get breath, expiratory moans, crepitant rales. Gave internal treatment, and covered both back and front of chest with antiphlogistine. In twenty-four hours the breathing was much better and temperature lower. On my third visit I found all the symptoms so improved that I dismissed the case.

Treatment of Tuberculosis.—(G. Bardet, C. R. de la Societe de Therapeutique, 22 November.)—At the last Tuberculosis Congress the general impression must have been amazement at the slight progress made in the treatment of tuberculosis. As a matter of fact there has been no change in the treatment within the last twenty years, and we are still compelled to use creosote in some form. Guaiacol, and a number of other similar products, have been suggested, but these are all derivatives of creosote, simply the creosote in disguise. Pharmacology has, therefore, made no progress, the standard creosote preparations are still as useful as ever, and it can therefore be said that no other remedy has taken their place.

The most recent literature on tuberculosis shows that vaccination, serumtherapy as a means of treatment in this dire disease, have not passed the experimental stage. As a matter of fact, although the experiments of Mr. Vallee, at the Ecole d'Alfort, along the lines suggested by Behring are very interesting, still their trial on man is not to be thought of. As for the different reports of the Marmorek serum, the results obtained with the latter are not better than those obtained for years by physicians using only medicinal treatment. The statistics in both cases are nearly the same.

A careful study of the pathology of tuberculosis has furnished in particular two new and interesting facts which throw light upon the evolution of the disease. We have in mind the various writings relating to the intestinal origin of tuberculosis and the excellent work of Dr. Ferrier on the loss of salts in the tissues as effecting tuberculous infection.

The theory that tuberculosis originates in the intestines is gaining ground each day. Calmette and Guerin have made experiments on animals to prove the most recent theories on the origin of tuberculosis and as a result of their researches they show conclusively that not only is primary infection of the lungs rare, but that pulmonary tuberculosis is always due to absorption of bacilli by the intestines, even when the latter are unaffected. Moreover, the patient infects himself through the intestinal tract by absorbing his own sputum.

It seems that a focus of infection cannot originate of itself in the lungs, but that the numerous foci of pulmonary infection are due to secondary infection caused by the introduction into the circulation, through the intestines, of bacilli freed by digestion of the sputum. This theory is most important, for it warrants us in concluding that medicinal treatment can prove effective in preventing successive infections and consequently cure the advancing lesions without dangers of the formation of new foci. Pautauberge's solution may then be of great service, since by its use the digestive tract is saturated with creosote, which is the remedy for tuberculosis and the most active destroyer of tubercle bacilli.

According to Mr. Ferrier loss of salts in the tissues and especially in the lungs is a most potent factor in aiding the progress of tuberculosis, for it prepares the tissues for the invasion and development of the bacilli. Mr. Ferrier has made use of the ideas advanced by Prof. Albert Robin, who for years has advocated the restitution

of lost salts in the system of tuberculous subjects. By carefully following out this recommendation he has been able to cure his patients by a judicious administration of lime salts. As a result the existing infection has run its course without extending, and the effects of the treatment have been so satisfactory that the author has had cases that were really cured. These wonderful results prove that tuberculosis is much more amenable to treatment than has been generally admitted.

Pautauberge's solution is, as we all know, a remedy composed of creosote combined with chlorophosphate of lime. Its formula is ideal, for in it the physician has both an antiseptic which checks intestinal fermentation, and a reconstituent which effects a renewal of the tissue salts. From this rapid review one may conclude that Pautauberge's solution is still the best remedy for tuberculosis and that the most researches prove indirectly and theoretically the cause of its efficacy which has long since been proven by long continued clinical experimentation.

Battle & Company, Saint Louis, has issued number 4 of the series of eighteen illustrations of dislocations. This number presents an etching of downward and forward dislocation of the sternal end of the clavicle.

M. J. Breitenbach Company, 53 Warren street, New York, proprietors and distributors of pepto-mangan (Gude), that excellent form of iron and manganese for the anemias, have again sent out to the profession the Physicians' Daily Memorandum, this edition being for the year 1908. It is one of the most serviceable desk memorandum books with which we are familiar, one page being allotted to each day of the year.

The Waters of Carabana, Spain.—(New York Medical Journal, July 27, 1907.)—Dr. James K. Cook, in an article in the Medical Record, does not entirely agree with the contention that America offers an analogue to any European spa, for he holds that there is no American water analogue to Carabana water, from the province of Madrid, Spain, a water which Crook regards as the strongest of known aperient waters. While Carabana has not become as generally known to the medical profession of the United States as some other European spas, it has been the subject of considerable investigation by the academies of medicine of Madrid and of Paris, and has had the stamp of approval of both academies. In fact, Benavides, of the Madrid Academy, goes so far as to declare Carabana "superior to any other mineral water known," on account of the fact that it is "invaluable in cases of intestinal and hepatic affections and dyspepsia, is perfectly tolerated by the stomach, and is never the cause of intestinal irritations." In the report of Professor A. Proust, of the Academy of Medicine of Paris, the Academy "decides for the use of the purgative water of Carabana." In the experience of the writer of these notes, Proust lays stress upon just those points in which Carabana differs from most other waters. It is exceedingly prompt in its action, producing copious stools, as a rule, within a suprisingly short time after ingestion. On account of this prompt and vigorous action, one would anticipate considerable intestinal disturbance, which however, Dr. Palmer (Chicago Clinic and Pure Water Journal, June, 1907.) has never known to be experienced. The small dose, one sherry glassful, is a point of advantage, not so much appreciated, perhaps, in Carabana, on account of the fact that its taste is by no means so unpleasant as the majority of bitter waters. Carabana has been employed in a number of cases in which free saline catharsis is desired, using a wineglassful before breakfast in ordinary cases, or, when continued effect is sought, the same dose before each meal, and, aside from the prompt and satisfactory effect, the water was found exceedingly gratifying to the patient. Carabana may be employed in those cases in which a prompt flushing of the alimentary tract is desired, or for the relief of stasis of the various organs. For the energetic catharsis frequently employed in obesity, over a prolonged period, Carabana is especially satisfactory.

The Coughs Following Grip.—Dr. John McCarty (Louisville Medical College,) in giving his personal experience with this condition, writes as follows: "Ten years ago I had the grip severely and every winter until 1902, my cough was almost intolerable. During January 1902, I procured a supply of antikamnia and codeine tablets and began taking them for my cough, which had distressed me all winter, and as they gave prompt relief, I continued taking them with good results. Last fall I again ordered a supply of antikamnia and codeine tablets and I have taken them regularly all winter and have coughed but very little. I take one tablet every three or four hours and one on retiring. They not only stop the cough, but make expectoration easy and satisfactory. The best results are obtained by allowing the tablet to dissolve slowly in the mouth before swallowing."

For Nervousness, sleeplessness and sexual excitement, characterized by erections or even chordee, various authorities vary in their recommendations. Ringer recommends the use of aconite and camphor. Bartholow and Phillips both advise the administration of lupulin. The value of Hyoscyamus has been appreciated by many medical men for a long time, and is quite valuable. Bromidia is to be highly recommended, since it consists of chloral, bromide, hyoscyamus and cannabis indica, and acts as a somnifacient, spinal sedative and hypnotic. The dose is a drachm to two drachms an hour before bed time.—American Journal Dermatology.

Lawyer.—Your profession is a paradoxical one, doctor, for it progresses as a live science at a killing rate.

Doctor.—And yours is equally so for your assets increase in proportion to your lie-abilities.—Baltimore American.

Courtesy in the Far West.—"Don't you ever make a mistake in these lynchings?" guilelessly asked the Bostonian. "That is, don't you ever lynch the wrong man?"

'That happened once," put in some one, "but we tried to do the square thing by the widow."

"Indeed!"

"Yes; we appointed a committee to inform her that the joke was on us, and we gave her the choice of the crowd for her second husband."—Lippincott's.

ISN'T THIS INE.?

There was an old .ady in Me.
Who built many castles in Spe.
Which she vowed she would see
When they let her go free
From the hospital for the inse.
—February Lippincott's.

OPHTHALMOLOGICAL.

"Look in mine eyes, my blushing fair,
Thou'lt see thyself reflected there;
And when in thine I look, I see
Two little images of me.
Thus in our looks some propagation lies,
For we make babies in each others' eyes."
—Lancet-Clinic.

LULLABY.

Holy Mother! Holy Mother!
In the dark I fear.
Light me with thy shining eyes.
Be thou ever near,

Holy Mother! Holy Mother!
Call thy little Son,
Bid Him bring me praying dreams
Ere the night be done.

Call the Angles, call them early,
Bid them fly to Thee.
One to call the little birds,
One to waken me.

—S. Wier Mitchell, in Everybody's Magazine.

OLD MOTHERS.

I love old mothers—mothers with white hair,
And kindly eyes, and lips grown softly sweet
With murmured blessings over sleeping babes.
There is a something in their quiet grace
That speaks the calm of Sabbath afternoons;
A knowledge in their deep, unfaltering eyes
That far outreaches all philosophy.
Time, with caressing touch, about them weaves
The silver-threaded fairy-shawl of age,
While all the echoes of forgotten songs
Seem joined to lend a sweetness to their speech.
Old mothers!—as they pass with slow-timed step,
Their trembling hands cling gently to youth's strength;
Sweet mothers!—as they pass one sees again
Old garden-walks, old roses, and old loves.
—Charles S. Ross in the December Century.